



QUARTERLY GROUNDWATER MONITORING REPORT

Fourth Quarter 2005 (Fourteenth Quarterly)

Sampled on November 9, 2005

Job # SP-120

LOP # 12365

Big Oil & Tire - Bigfoot Service Station (Bigfoot Gas)

2801 Central Avenue
McKinleyville, California 95519

January 25, 2006

This *Quarterly Groundwater Monitoring Report* was prepared by SounPacific Environmental Services (SounPacific) staff for Big Oil & Tire Co. (BO&T), and includes data from previous studies that were conducted by Clearwater Group, Inc. (CGI) and information from relevant files at Humboldt County Department of Health and Human Services: Division of Environmental Health (HCDEH). The station is located at 2801 Central Avenue in McKinleyville, California (Figure 1).

SITE DESCRIPTION

The site is surfaced around the current structure with concrete and asphalt. Site improvements include a single story building with an attached, overhead awning that covers the main dispenser islands. The main structure covers approximately 800 square feet and is positioned near the center of the property with the entrance to the building facing west towards Central Avenue. Attached to the main structure is a small out building at the north end of the property that is used for storage (Figure 2).

Two (2) 12,000-gallon split compartmented underground storage tanks (USTs) are located in a single excavation between the station and Central Avenue and are used for the storage of three (3) grades of unleaded gasoline and diesel fuel. Fuel is dispensed from two (2) main dispenser islands, which are located under the awning. BO&T owns, operates and is therefore responsible for the maintenance and testing of the product lines and the UST system on a regular basis. The site is serviced by public utilities. Surface water is controlled by drainage ditches and storm drains (Figure 2).

SITE TOPOGRAPHY AND LAND USE

SounPacific understands that the property is currently owned by BO&T of Arcata, California. The main structure is used as a retail gas station for the dispensing of three (3) grades of unleaded gasoline and diesel fuel from the USTs on site. On the north section of the property, a commercial propane tank is stored and used for the filling of smaller propane tanks for the public (Figure 2). The surrounding land use is a mixture of commercial and residential. An automobile garage is located immediately to the south across Murray Road, and properties adjacent to the east, west and north are undeveloped.

The site is approximately two (2) miles east of the Pacific Ocean and approximately 110 feet above mean sea level (amsl). The site is situated approximately 600 feet south of Norton Creek and 1,400 feet north of Widow White Creek. According to the United States Geological Survey Arcata North Quadrangle California-Humboldt County, 7.5 minute series (Topographic) 1959 (photo-revised 1972), a tributary of Norton Creek is rerouted into an underground culvert along the south side of the site. Norton Creek is also artificially controlled along the eastern side of Central Avenue near the site. These two (2) engineered drainage features intersect near the southwestern corner of the property and flow west, toward the Pacific Ocean (Figure 2). It is uncertain if the engineered drainage along the southern and western boundaries of the site will exhibit any hydraulic influence on groundwater flow directly beneath the site. Topography consists of rolling terrain that gently slopes west toward the Pacific Ocean (Figure 1).

SITE HISTORY

Previous studies from SounPacific and Clearwater Group, Inc. (CGI) indicated the following historical information:

1991 Installation of (2) Two 12,000-gallon Gasoline USTs

On May 8, 1991, Beacom Construction of Fortuna, California (Beacom) installed two (2) 12,000-gallon USTs (Figure 2). Prior to installation, three (3) groundwater samples (TP-1, TP-2, and TP-3) were collected from the excavation (Figure 3). No petroleum hydrocarbons were reported above laboratory detection limits (Table 1) in any of the three (3) samples. In June 1991, Beacom collected six (6) soil samples (W-1, W-2, E-1, E-2, E-3, and S-1) (Figure 3) from beneath the product lines. Gasoline range hydrocarbons were reported in all six (6) samples, with the highest concentrations in sample E-2, which was located to the southeast of the eastern dispenser islands (Table 2).

1991 Removal of Former Gasoline and Kerosene USTs

On July 11, 1991, Beacom removed one (1) 2,000-gallon gasoline UST and one (1) 1,000-gallon kerosene UST from separate locations at the Site, see Figure 3. Two (2) soil samples (Premium North and Premium South) were collected from the sidewalls of the gasoline UST removal excavation at depths of 5'6" bgs and one (1) groundwater sample (Premium) was collected from the bottom of the excavation pit. Beacom also collected two (2) soil samples (South #1 and South #3) beneath the product lines at depths of 1'6" bgs (Figure 3). TPHg and BTXE were reported in all four (4) soil samples, with the highest concentrations in sample South #3, which was collected adjacent to the west of the station (Tables 1-2), which reported TPHg at 5,000 ppm. Groundwater from the gasoline UST excavation reported TPHg at 320,000 ppb. Beacom also collected two (2) soil samples (Kerosene East and Kerosene West) at a depth of six (6) feet bgs and one (1) groundwater sample (Kerosene) from the 1,000-gallon kerosene UST removal excavation (Figure 3). No TPH as solvent (TPHs) was reported in the soil samples, however, in the groundwater TPHs was reported at 1,500 ppb (Table 1).

1995 CGI Investigation

On November 7, 1995, CGI conducted a preliminary site assessment at the Site in an effort to determine the extent of soil contamination related to the former USTs. The investigation was performed in accordance with the Trans Tech Consultants' *Work Plan Preliminary Site Assessment*, dated June 12, 1993, and *Work Plan Addendum*, dated March 12, 1993. The investigation consisted of hand-augering two (2) soil borings near the former 2,000-gallon gasoline UST (SB-1 and SB-2) and two (2) soil borings near the former 1,000-gallon kerosene UST (SB-3 and SB-4) (Figure 3). The investigation identified contamination in boring SB-1, adjacent to the former gasoline UST at TPHg concentrations that ranged between 2,200 ppm and 5,600 ppm, see Table 2. Based upon the presence of the contamination, CGI recommended excavation of additional soils and the installation of monitoring wells.

2000 SounPacific Investigation

In a letter dated January 14, 1998, HCDEH requested a workplan to investigate the extent of hydrocarbon contamination in groundwater related to releases of gasoline and kerosene from the previous USTs and product lines, and to perform interim remedial actions at the site. On September 20, 2000, SounPacific staff performed a subsurface investigation at the Bigfoot Service Station in accordance with Phase 1 of the approved CGI *Revised Subsurface Investigation and Interim Remediation Workplan*, dated August 14, 1999, and the CGI *Workplan Addendum*, dated December 21, 1999. The purpose of the investigation was to further evaluate the extent of soil and groundwater on site. Ten hand augured soil borings (B-1 through B-10) (Figure 3) were drilled to depths that ranged from 6.3 feet bgs to 9.5 feet bgs, with the exception of borings B-4 and B-5, in which cement was encountered just below the surface. Soil samples were collected from nine (9) boring locations (B-1 through B-3 and B-5 through B-10). TPHg was reported in borings B-5 and B-10, with only the sample from six (6) feet in boring B-10, where TPHg at 14,000 ppm was reported, reporting contaminant levels of concern (Table 2). Groundwater samples were collected from eight (8) boring locations (B-1 through B-3, and B-6 through B-10). Elevated levels of TPHg, BTXE, and MTBE were reported in borings B-7 and B-10, which are located in the areas between the station building, and new USTs, and to the east of the dispenser islands, respectively (Table 1). MTBE was detected in six (6) out of eight (8) groundwater samples, along with the presence of other gasoline constituent contaminants. Based upon the

results of the investigation, SounPacific recommended that further investigation was needed to define the extent of contamination that included the investigation of potential contaminant transport conduits, the installation of monitoring wells, and the initiation of a groundwater monitoring program.

2002 SounPacific Investigation

In a letter dated March 1, 2001, HCDEH requested a workplan to determine the extent of contamination at the site and to evaluate preferential transport pathways. On April 22, 2002, SounPacific staff performed a subsurface investigation which followed the scope of work in the approved *Subsurface Investigation Workplan*, dated April 10, 2001. The investigation consisted of installing seven (7) soil borings (B-11, B-13 through B-18) and six (6), two-inch diameter groundwater monitoring wells (MW-1 through MW-6) (Figure 3). Soil and groundwater samples were collected from each boring location (Table 1-2).

With the exception of low levels of MTBE in boring B-17, no petroleum hydrocarbons were reported in any of the analyzed soil samples. In the grab groundwater samples from the borings, TPHg was reported in three samples (B-11, B-14, and B-15), with the highest concentration from boring B-11, where 27,300 ppb was reported. TPHd was also reported at elevated levels in borings B-11 and B-17. In the monitoring wells, the highest level of contamination was reported in well MW-5, which is located adjacent to the previous 2,000-gallon gasoline UST. The investigation identified three (3) discrete areas that appear to have elevated groundwater contamination, and as a result recommended that a work plan be developed to deal with these three (3) areas of concern and that quarterly sampling and monthly water levels continue as approved.

2003 Site Assessment (SounPacific)

On June 20, 2003, SounPacific submitted to HCDEH a *Fourth Quarterly Groundwater Monitoring / Site Assessment Report*. The purpose of the report was to discuss the groundwater-monitoring program being conducted at the site, present a site conceptual model that interpreted

all previous investigative work at the site, and provide recommendations for future activity. In this report, SounPacific stated that information gathered to date indicated that the soil plume has been delineated to the east, northeast, and southeast, but that further investigation was needed in the areas, to the north of the dispenser islands in the vicinity of borings B-16, B-17, and B-18; west of the UST tank farm; and in the area south of boring B-5. Therefore, SounPacific recommended that a workplan be prepared to delineate the soil plume in these areas, and include a series of borings near the product lines, to determine if the product line trenches were preferential pathways for the migration of the contamination.

2003 Work Plan Request (HCDEH)

In a letter dated July 14, 2003, HCDEH concurred with SounPacific's recommendation to prepare a Work Plan to delineate the source(s) of soil contamination at the site. SounPacific submitted a *Subsurface Investigation Workplan*, dated August 3, 2005, which was approved by HCDEH in a letter dated August 22, 2005. In addition, SounPacific submitted a workplan addendum, entitled *Response to Workplan Approval Letter dated August 22, 2005*, which further clarified SounPacific's rationale and intent for work proposed in the August 3, 2005 workplan. This addendum was approved in a letter from HCDEH dated October 27, 2005. Implementation of the workplan and workplan addendum is scheduled for February 2006.

May 2002 to Current, Groundwater Monitoring

Groundwater monitoring of the six (6) monitoring wells at the Site was initiated in May 2002, and has been conducted on a quarterly basis since that date. Since the introduction of the groundwater monitoring, the depth to water has averaged less than two (2) bgs, and petroleum hydrocarbons have consistently been reported in all wells except MW-1, and to a lesser degree MW-6. All groundwater elevation and analytical monitoring data is presented in Tables 3 and 4, respectively.

RESULTS OF QUARTERLY SAMPLING

A quarterly groundwater monitoring program was implemented in May 2002, following the installation of the monitoring wells at the Site, and will continue until further notice. The program consists of recording quarterly water level data and collecting quarterly groundwater samples for laboratory analysis. Water level data is used to develop a figure which displays the groundwater gradient and average flow direction using standard three-point calculations. Analytical results of monitoring well groundwater samples collected during quarterly sampling events present hydrocarbon contamination levels in the groundwater beneath the site. This report documents the results from the monitoring wells that were gauged and sampled on November 9, 2005.

FIELD DATA

Wells gauged: MW-1, 2, 3, 4, 5, and 6

GW Levels: Depth ranged from 0.92 feet to 2.57 feet below top of casing (Table 3)
Elevation ranged from 110.18 to 111.70 feet above mean sea level (Table 3)

Floating product: Sheen detected in MW-2 and 3

GW flow Direction: West (Figure 4)

GW gradient: 0.012 feet per foot (ft/ft) (Figure 4)

On November 9, 2005 the depth to groundwater in the site's six monitoring wells ranged from 0.92 feet below top of casing (btoc) in well MW-5 to 2.57 feet btoc in MW-2. When corrected to mean sea level, water level elevations ranged from 110.18 feet above mean sea level (amsl) in MW-3 to 111.70 feet amsl in MW-5. Groundwater levels for the November 9, 2005 monitoring event, along with historical levels and elevations, are included in Table 3. Groundwater flow on November 9, 2005 was towards the west at a gradient of 0.012 feet per foot. The groundwater flow and gradient are graphically depicted in Figure 4. Prior to sampling, all wells were purged; the groundwater field parameters for each well are presented below.

MONITORING WELL MW-1 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
11:23 am	0	6.66	60.02	0.216
11:27	1.7	6.94	59.99	0.209
11:31	3.4	6.88	59.91	0.205
11:35	5.1	6.89	59.87	0.197

MONITORING WELL MW-2 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
11:50 am	0	6.87	58.49	0.706
11:53	1.5	6.93	58.70	0.706
11:57	3.0	6.99	58.71	0.705
12:02 pm	4.5	7.03	58.67	0.694

MONITORING WELL MW-3 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
12:13 pm	0	7.10	61.66	0.283
12:18	1.5	6.87	62.63	0.294
12:22	3.0	6.85	62.71	0.293
12:29	4.5	6.23	62.72	0.294

MONITORING WELL MW-4 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
12:36 pm	0	7.25	65.34	0.298
12:42	1.48	7.19	65.51	0.302
12:47	2.96	7.23	65.44	0.299
12:52	4.44	7.18	65.48	0.298

MONITORING WELL MW-5 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
1:02 pm	0	7.18	56.20	0.164
1:08	1.66	7.08	57.77	0.264
1:13	3.34	7.10	58.29	0.297
1:17	5.0	7.12	58.28	0.298

MONITORING WELL MW-6 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
1:27 pm	0	7.02	59.59	0.244
1:30	1.44	6.99	62.09	0.262
1:34	2.88	6.98	62.39	0.294
1:38	4.32	7.06	62.47	0.292

ANALYTICAL RESULTS

Sampling locations: MW-1, 2, 3, 4, 5, and 6

Analyses performed: TPHg, BTXE, MTBE, DIPE, TAME, ETBE, TBA, TPHd, TPHmo

Laboratories Used: Basic Labs, Redding, California (CA ELAP Cert #1677)

The analytical results for the current monitoring event are presented below and graphically depicted in Figure 5. The laboratory report is included as Appendix A. The historical analytical results for all monitoring wells, since the implementation of groundwater monitoring are included as Table 4.

	<u>MW-1</u> (ppb)	<u>MW-2</u> (ppb)	<u>MW-3</u> (ppb)	<u>MW-4</u> (ppb)	<u>MW-5</u> (ppb)	<u>MW-6</u> (ppb)
TPHg:	ND < 50	1,680	155	5,040	4,590	167
Benzene:	ND < 0.5	ND < 5.0	ND < 0.5	79.3	2.7	2.2
Toluene:	ND < 0.5	ND < 5.0	ND < 0.5	72.1	29.1	ND < 0.5
Xylenes:	ND < 1.0	ND < 10.0	ND < 1.0	202	1,440	ND < 1.0
Ethylbenzene:	ND < 0.5	ND < 5.0	ND < 0.5	219	141	ND < 0.5
MTBE:	12.9	1,980	154	23.3	ND < 5.0	14.5
DIPE:	ND < 0.5	ND < 5.0	ND < 0.5	ND < 0.5	ND < 2.5	ND < 0.5
TAME:	0.5	760	63.5	1.2	ND < 2.5	5.7
ETBE:	ND < 0.5	5.7	ND < 0.5	ND < 0.5	ND < 2.5	ND < 0.5
TBA:	ND < 50	ND < 500	ND < 50	ND < 50	ND < 250	ND < 50
TPHd:	ND < 50	408	ND < 50	1,020	825	83
TPHmo:	ND < 50	253	70	127	179	255

ND = non-detectable

COMMENTS AND RECOMMENDATIONS

On November 9, 2005, the 14th groundwater monitoring event for the six (6) onsite monitoring wells was conducted at the Bigfoot Gas Station at 2801 Central Avenue in McKinleyville, California. A summary of the results are presented below.

- The depth to groundwater in the six (6) wells ranged between 0.92 and 2.57 feet btoc. Groundwater flow was towards the west at a gradient of 0.012 feet per foot.
- Groundwater samples from the six (6) on-site wells were collected and analyzed for TPHg, BTXE, five-fuel oxygenates, TPHd, and TPHmo.
- Laboratory results reported TPHg in five (5) wells at concentrations ranging from 155 ppb (MW-3) to 5,040 ppb (MW-4). No TPHg was reported in monitoring well MW-1.
- No BTEX compounds were reported in monitoring wells MW-1, MW-2, or MW-3. In the remaining wells, benzene was reported in all three (3) wells at concentrations ranging from 2.2 ppb (MW-6) to 79.3 ppb (MW-4). Toluene, xylenes, and ethylbenzene was all reported in wells MW-4 and MW-5, with toluene at concentrations of 29.1 ppb (MW-5) and 72.1 ppb (MW-4), xylenes at concentrations of 202 ppb (MW-4) and 1,440 ppb (MW-5), and ethylbenzene at concentrations of 141 ppb (MW-5) and 219 ppb (MW-4).
- Of the fuel oxygenates, MTBE was reported in five (5) wells at concentrations ranging from 12.9 ppb (MW-1) and 1,980 ppb (MW-2). TAME was reported in five (5) wells at concentrations ranging between 0.5 ppb (MW-1) and 760 ppb (MW-2). No MTBE or TAME was reported in well MW-5. ETBE was reported well MW-2 at a concentration of 5.7 ppb. TBA and DIPE were not reported in any of the wells.
- TPHd was reported in four (4) wells at concentrations ranging from 83 ppb (MW-6) to

1,020 ppb (MW-4). TPHmo was reported in five (5) wells at concentrations ranging from 70 ppb (MW-3) to 255 ppb (MW-6). No TPHd or TPHmo was reported in well MW-1.

Based upon these results the following observations and conclusions have been made.

- TPHg has been absent in monitoring well MW-1, since the 4th Quarter 2002 sampling event. TPHg has been consistently detected in well MW-2 at high concentrations, except for the 3rd Quarter 2003, in which the detection limits were raised to 5,000 ppb. Concentrations of TPHg have been detected in well MW-3 during twelve out of fifteen sampling events. The highest concentrations of TPHg have been consistently detected in wells MW-4 and MW-5 since the inception of the monitoring program. Concentrations of TPHg have been detected in well MW-6 during ten out of fifteen sampling events. See Figures 6 through 11.
- No BTXE compounds have been reported in MW-1 since the Well Installation sampling event. BTXE has been reported in wells MW-2, MW-3, and MW-6 during various sampling events at fluctuating concentrations. BTXE has been reported in wells MW-4 and MW-5 at high levels for the majority of the sampling events to date at fluctuating concentrations. See Figures 6 through 11.
- MTBE has been reported in well MW-1 during eleven out of fifteen sampling events at fluctuating concentrations. MTBE has been reported in wells MW-2 and MW-3 during every sampling event thus far. Concentrations fluctuate in the range of 10^3 ppb in MW-2 and from 10^2 to 10^3 ppb in MW-3. MTBE has been reported in well MW-4 during ten out of fifteen sampling events. MTBE has not been reported in MW-5 since the 4th Quarter 2002 sampling event, although the elevated reporting limit may be masking its presence. MTBE has been reported in well MW-6 during fourteen out of fifteen sampling events at fluctuating concentrations. See Figures 6 through 11.
- DIPE has not been reported in any wells since the inception of the monitoring program.

- TAME has been reported in MW-1 during multiple sampling events at low concentrations. TAME has consistently been reported in wells MW-2 and MW-3, since the inception of the monitoring, although concentrations in these wells have significantly fluctuated. TAME was reported five (5) times in MW-4 and one (1) time in MW-5. In MW-6, TAME has been detected during multiple sampling events, with an overall decrease in concentrations.
- ETBE has only been reported five (5) times in well MW-2 since the inception of the monitoring program.
- TBA has occasionally been reported in wells MW-2, MW-3, and MW-6, but has not been reported in MW-1, MW-4, or MW-5.
- With the exception of the 3rd Quarter 2004 monitoring event, TPHd has not been reported in MW-1. TPHd was reported in MW-2 consistently during the last ten sampling events. TPHd was reported in MW-3 during seven (7) out of fifteen sampling events. TPHd has frequently been reported in wells MW-4 and MW-5, with concentrations varying from 10^2 to 10^3 ppb since the inception of groundwater monitoring. TPHd has been reported in well MW-6 during eight (8) out of fifteen sampling events. See Figures 6 through 11.
- TPHmo has not been reported in well MW-1 since the inception of the monitoring program. TPHmo was reported four (4) times in wells MW-2, MW-3, and MW-4 during the last four (4) quarters. TPHmo has been reported five (5) times in both MW-5 and MW-6 since the inception of the monitoring; four (4) of those times were during the last four (4) quarterly events. The lower reporting limit used currently, may portray the TPHmo trend more accurately in upcoming monitoring events.
- Lead scavengers as EDC have been reported at low concentrations (<2 ppb) during multiple events in MW-3. EDC was also reported in MW-6 during the 2nd Quarter 2003. EDC and EDB have not been reported in any other well since the inception of monitoring.

- Based on the results of the November 2005 monitoring event and historical results, the following future activities are proposed.
- Groundwater monitoring will be continued until further notice. Groundwater level measurements will be collected from the six (6) onsite monitoring wells to determine groundwater flow direction and gradient. Collected groundwater samples will be analyzed for TPHg, BTXE, five-fuel oxygenates, TPHd, and TPHmo.
- The groundwater monitoring has not identified any significant decreases in the levels of petroleum hydrocarbons in the groundwater, which may indicate that hydrocarbons are still contributing mass to the observed groundwater plume or no natural degradation is occurring. Additionally, further lateral and vertical evaluation of the groundwater contamination is necessary in order to delineate the extent of the groundwater contamination and propose remedial alternatives. A Work Plan to conduct the proposed additional investigation was submitted on August 3, 2005, and conditionally approved by HCDEH in a letter dated August 22, 2005. The approval conditions are currently being addressed, and it is expected that the field work will be conducted in February 2006.

CERTIFICATION

This report was prepared under the direct supervision of a California registered geologist at SounPacific. All information provided in this report including statements, conclusions and recommendations are based solely upon field observations and analyses performed by a state-certified laboratory. SounPacific is not responsible for laboratory errors.

SounPacific promises to perform all its work in a manner that is currently used by members in similar professions working in the same geographic area. SounPacific will do whatever is reasonable to ensure that data collection is accurate. Please note however, that rain, buried utilities, and other factors can influence groundwater depths, directions and other factors beyond what SounPacific could reasonably determine.

SounPacific

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ATTACHMENTS

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APPENDICES

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Tables & Chart

Table 1
Groundwater Analytical Results
 Bigfoot Gas
 2801 Central Avenue
 McKinleyville, California 95519

Sample ID	Sample Location	Sample Date	TPH _g (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPH _d (ppb)	TPH _{mo} (ppb)	TPHs (ppb)	Methanol (ppb)	Ethanol (ppb)	Dissolved Pb (ppb)
Test Pit #1	TP-1	5/8/1991	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Test Pit #2	TP-2	5/8/1991	ND < 50	----	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	----	----	----	----	----	----	----	----	----	----
Test Pit #3	TP-3	5/8/1991	----	----	----	----	----	----	----	----	----	----	----	----	ND < 50	----	----	----
Premium	Premium	7/11/1991	320,000	----	54,000	4,800	19,000	----	----	----	----	----	----	----	----	----	----	----
Kerosene	Kerosene	7/11/1991	----	----	----	----	----	----	----	----	----	----	----	----	1,500	----	----	----
SPBFB-1	B-1	9/20/2000	ND < 50	ND < 0.50	ND < 0.50	2.8	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	ND < 5.0	----	----	----	ND < 50	22	ND < 20
SPBFB-2	B-2	9/20/2000	ND < 50	ND < 0.50	ND < 0.50	3.4	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	ND < 5.0	----	----	----	ND < 50	70	ND < 20
SPBFB-3	B-3	9/20/2000	ND < 50	ND < 0.50	ND < 0.50	1.2	ND < 0.50	0.54	ND < 0.50	ND < 0.50	ND < 0.50	ND < 5.0	----	----	----	82	110	ND < 20
SPBFB-6	B-6	9/20/2000	ND < 50	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	1.0	ND < 0.50	ND < 0.50	ND < 0.50	ND < 5.0	----	----	----	ND < 50	ND < 50	ND < 20
SPBFB-7	B-7	9/20/2000	6,400	660	110	440	380	260	ND < 2.0	4.0	ND < 2.0	67	----	----	----	ND < 200	ND < 20	ND < 20
SPBFB-8	B-8	9/20/2000	140	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	580	ND < 0.50	85	ND < 0.50	ND < 5.0	----	----	----	ND < 50	ND < 5.0	ND < 20
SPBFB-9	B-9	9/20/2000	ND < 50	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	180	ND < 0.50	9.9	ND < 0.50	26	----	----	----	ND < 50	16	ND < 20
SPBFB-10	B-10	9/20/2000	990	210	3.8	3.2	13	380	ND < 0.50	ND < 0.50	5.4	7.6	----	----	----	ND < 50	ND < 20	ND < 20
SBGW-11	B-11	4/22/2002	27,300	656	5,440	6,280	715	1,610	ND < 0.5	255	ND < 0.5	ND < 0.5	1,250	ND < 50	----	----	----	----
SBGW-13	B-13	4/22/2002	ND < 50	ND < 0.3	0.5	1.1	ND < 0.3	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50	----	----	----	----
SBGW-14	B-14	4/22/2002	165	104	0.6	1	ND < 0.3	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50	----	----	----	----
SBGW-15	B-15	4/22/2002	263	ND < 0.3	5.3	24.5	1.8	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50	----	----	----	----
SBGW-16	B-16	4/22/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50	----	----	----	----
SBGW-17	B-17	4/22/2002	ND < 25,000	ND < 150	ND < 150	ND < 300	ND < 150	ND < 1,000	ND < 250	ND < 250	ND < 250	ND < 250	ND < 50	ND < 50	----	----	----	----
SBGW-18	B-18	4/22/2002	ND < 50	ND < 0.3	1.0	2.6	ND < 0.3	2.1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50	----	----	----	----

notes:

TPH_g: Total petroleum hydrocarbons as gasoline.
 MTBE: Methyl tertiary butyl ether
 DIPE: Diisopropyl Ether
 TAME: Tertiary amyl methyl ether
 ETBE: Ethyl tertiary butyl ether
 TPH_d: Total petroleum hydrocarbons as diesel

TPH_{mo}: Total petroleum hydrocarbons as motor oil
 TBA: Tertiary butanol
 TPHs: Total petroleum hydrocarbons as solvent
 ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm.
 ND: Not detected at or below the method detection limit as shown.

Table 2
Soil Analytical Results
Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	DIPE (ppm)	TAME (ppm)	ETBE (ppm)	TBA (ppm)	TPHd (ppm)	TPHs (ppm)	Lead (ppm)
BF West #1	W-1	6/18/1991	3	ND < 0.005	0.0067	0.049	ND < 0.005	----	----	----	----	----	----	----	----
BF West #2	W-2	6/18/1991	1.6	ND < 0.005	0.0067	0.02	ND < 0.005	----	----	----	----	----	----	----	----
BF East #1	E-1	6/27/1991	130	0.16	0.93	ND < 2.0	ND < 2.0	----	----	----	----	----	----	----	----
BF East #2	E-2	6/27/1991	210	1.9	17	20	3.4	----	----	----	----	----	----	----	----
BF East #3	E-3	6/27/1991	8	0.12	0.15	22	0.057	----	----	----	----	----	----	----	----
BF South #1	S-1	6/27/1991	88	0.062	0.18	0.34	0.065	----	----	----	----	----	----	----	----
PN @ 5'6"	Premium North	7/11/1991	7	0.049	0.0800	0.210	0.074	----	----	----	----	----	----	----	----
PS @ 5'6"	Premium South	7/11/1991	350	ND < 0.50	2.6	12.00	1.5	----	----	----	----	----	----	----	----
S-1 @ 1'6"	South #1	7/11/1991	36	0.0099	0.075	0.15	0.026	----	----	----	----	----	----	----	----
S-3 @ 1'6"	South #3	7/11/1991	5,000	14	280	510	96	----	----	----	----	----	----	----	----
KE @ 6'	Kerosene East	7/11/1991	----	----	----	----	----	----	----	----	----	----	----	ND < 1.0	----
KW @ 6'	KeroseneWest	7/11/1991	----	----	----	----	----	----	----	----	----	----	----	ND < 1.0	----
B-1 @ 3.5'	B-1	3/22/1995	ND < 1	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	----	----	----	----	----	----	----	ND < 5
B-1 @ 5.5'	B-1	3/22/1995	ND < 1	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	----	----	----	----	----	----	----	ND < 5
SB-1A @ 1.5 '	SB-1	11/7/1995	4,200	ND < 1	49	370	27	----	----	----	----	----	----	----	----
SB-1B @ 3'	SB-1	11/7/1995	5,600	ND < 2	97	590	59	----	----	----	----	----	----	----	----
SB-1C @ 5.5'	SB-1	11/7/1995	2,200	0.91	55	240	24	----	----	----	----	----	----	----	----
SB-2A @ 3'	SB-2	11/7/1995	ND < 1	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	----	----	----	----	----	----	----	----
SB-2B @ 7.5'	SB-2	11/7/1995	23	0.015	0.014	0.220	0.1200	----	----	----	----	----	----	----	----
SB-3A @ 2'	SB-3	11/7/1995	ND < 0.2	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	----	----	----	----	----	ND < 1	ND < 1	----
SB-4A @ 2'	SB-4	11/7/1995	ND < 1	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	----	----	----	----	----	ND < 1	ND < 1	----
SPBFB-1 @ 5'	B-1	9/20/2000	ND < 1.0	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.050	----	----	----	----	----	----	----
SPBFB-1 @ 10'	B-1	9/20/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----	----	----	----	----	----
SPBFB-2 @ 5'	B-2	9/20/2000	ND < 1.0	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.050	----	----	----	----	----	----	----
SPBFB-2 @ 9'	B-2	9/20/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----	----	----	----	----	----
SPBFB-3 @ 5'	B-3	9/20/2000	ND < 1.0	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.050	----	----	----	----	----	----	----
SPBFB-3 @ 10'	B-3	9/20/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----	----	----	----	----	----
SPBFB-5 @ 6"	B-5	9/20/2000	22	ND < 0.0050	0.0096	0.077	0.0090	ND < 0.050	----	----	----	----	2,900	----	----
SPBFB-6 @ 5'	B-6	9/20/2000	ND < 1.0	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.050	----	----	----	----	----	----	----
SPBFB-6 @ 7'	B-6	9/20/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----	----	----	----	----	----
SPBFB-7 @ 5'	B-7	9/20/2000	ND < 1.0	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.050	----	----	----	----	----	----	----
SPBFB-7 @ 7.4'	B-7	9/20/2000	ND < 1.0	0.0061	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----	----	----	----	----	----
SPBFB-8 @ 5'	B-8	9/20/2000	ND < 1.0	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.0050	0.15	----	----	----	----	----	----	----

Table 2 (cont.)
Soil Analytical Results
Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	DIPE (ppm)	TAME (ppm)	ETBE (ppm)	TBA (ppm)	TPHd (ppm)	TPHs (ppm)	Lead (ppm)
SPBFB-8 @ 7.5'	B-8	9/20/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----	----	----	----	----	----
SPBFB-9 @ 10'	B-9	9/20/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----	----	----	----	----	----
SPBFB-10 @ 5'	B-10	9/20/2000	1.1	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.050	----	----	----	----	----	----	----
SPBFB-10 @ 6"	B-10	9/20/2000	1,400	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.0050	ND < 0.050	----	----	----	----	----	----	----
SPBFB-10 @ 9'	B-10	9/20/2000	ND < 1.0	0.014	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----	----	----	----	----	----
SB-11 @ 4'	B-11	4/22/2002	2.342	0.068	0.447	0.995	0.116	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-13 @ 4'	B-13	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-13 @ 8'	B-13	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-13 @ 12'	B-13	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-14 @ 4'	B-14	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-14 @ 8'	B-14	4/22/2002	1.99	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-14 @ 12'	B-14	4/22/2002	0.625	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-15 @ 4'	B-15	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-15 @ 8'	B-15	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-15 @ 12'	B-15	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-16 @ 4'	B-16	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-16 @ 8'	B-16	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-16 @ 12'	B-16	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-17 @ 4'	B-17	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.023	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-17 @ 8'	B-17	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.007	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-17 @ 12'	B-17	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-18 @ 4'	B-18	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-18 @ 8'	B-18	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----
SB-18 @ 12'	B-18	4/22/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 5	----	----	----

Notes:

TPHg: Total petroleum hydrocarbons as gasoline

MTBE: Methyl tertiary butyl ether

TAME: Tertiary amyl methyl ether

DIPE: Diisopropyl ether

TPHs: Total petroleum hydrocarbons as solvent

ETBE: Ethyl tertiary butyl ether

TBA: Tertiary butanol

ppm: parts per million = $\mu\text{g/g} = \text{mg/kg} = 1000\mu\text{g/kg}$.

ND: Not detected at or below the method detection limit as shown.

Table 3
Water Levels
 Bigfoot Gas
 2801 Central Avenue
 McKinleyville, California 95519

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL
MW-1	5/1/2002	11.66	111.57	1.54	110.03
	5/30/2002	11.67	111.57	2.43	109.14
	7/3/2002	11.63	111.57	2.65	108.92
	8/3/2002	11.62	111.57	3.40	108.17
	9/4/2002	11.64	111.57	3.90	107.67
	10/4/2002	11.70	111.57	4.25	107.32
	11/4/2002	11.65	111.57	4.36	107.21
	12/2/2002	12.63	111.57	3.61	107.96
	1/6/2003	11.66	111.57	1.22	110.35
	2/5/2003	11.67	111.57	1.31	110.26
	3/7/2003	11.67	111.57	1.67	109.90
	4/8/2003	11.67	111.57	1.00	110.57
	5/12/2003	11.67	111.57	1.32	110.25
	8/2/2003	11.88	111.57	3.11	108.46
	11/8/2003	11.88	111.57	2.57	109.00
	2/5/2004	11.88	111.57	1.21	110.36
	5/4/2004	11.88	111.57	2.03	109.54
	8/9/2004	11.82	111.57	3.71	107.86
	11/5/2004	11.83	111.57	2.08	109.49
	2/6/2005	11.83	111.57	1.65	109.92
	5/13/2005	11.81	111.57	1.32	110.25
	8/9/2005	11.90	111.57	2.90	108.67
	11/9/2005	11.81	111.57	1.20	110.37
MW-2	5/1/2002	12.00	113.03	2.75	110.28
	5/30/2002	11.85	113.03	3.63	109.40
	7/3/2002	11.87	113.03	4.20	108.83
	8/3/2002	11.87	113.03	4.68	108.35
	9/4/2002	11.87	113.03	5.22	107.81
	10/4/2002	9.71	113.03	5.64	107.39
	11/4/2002	11.82	113.03	5.67	107.36
	12/2/2002	11.83	113.03	4.83	108.20
	1/6/2003	11.86	113.03	2.46	110.57
	2/5/2003	10.22	113.03	2.52	110.51
	3/7/2003	11.72	113.03	2.71	110.32
	4/8/2003	11.72	113.03	2.22	110.81
	5/12/2003	11.72	113.03	2.53	110.50
	8/2/2003	11.98	113.03	4.31	108.72
	11/8/2003	11.98	113.03	3.95	109.08
	2/5/2004	11.98	113.03	2.44	110.59
	5/4/2004	11.98	113.03	3.24	109.79
	8/9/2004	11.97	113.03	5.07	107.96
	11/5/2004	12.04	113.03	3.26	109.77
	2/6/2005	12.04	113.03	2.79	110.24
	5/13/2005	9.12	113.03	2.57	110.46
	8/9/2005	9.14	113.03	4.16	108.87
	11/9/2005	11.97	113.03	2.57	110.46

Table 3 (cont.)
Water Levels
 Bigfoot Gas
 2801 Central Avenue
 McKinleyville, Californian 95519

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL
MW-3	5/1/2002	11.39	112.13	2.15	109.98
	5/30/2002	11.24	112.13	2.94	109.19
	7/3/2002	11.25	112.13	3.41	108.72
	8/3/2002	11.24	112.13	3.84	108.29
	9/4/2002	11.21	112.13	4.32	107.81
	10/4/2002	11.22	112.13	4.69	107.44
	11/4/2002	11.22	112.13	4.83	107.30
	12/2/2002	11.23	112.13	4.02	108.11
	1/6/2003	11.25	112.13	1.91	110.22
	2/5/2003	11.25	112.13	2.00	110.13
	3/7/2003	11.29	112.13	2.30	109.83
	4/8/2003	11.29	112.13	1.69	110.44
	5/12/2003	11.29	112.13	1.99	110.14
	8/2/2003	11.46	112.13	3.57	108.56
	11/8/2003	11.46	112.13	3.00	109.13
	2/5/2004	11.46	112.13	1.91	110.22
	5/4/2004	11.46	112.13	2.61	109.52
	8/9/2004	11.46	112.13	4.14	107.99
	11/5/2004	11.40	112.13	2.67	109.46
	2/6/2005	11.40	112.13	2.30	109.83
	5/13/2005	11.42	112.13	1.98	110.15
	8/9/2005	11.50	112.13	3.40	108.73
	11/9/2005	11.40	112.13	1.95	110.18
MW-4	5/1/2002	11.34	112.76	2.44	110.32
	5/30/2002	11.14	112.76	3.28	109.48
	7/3/2002	11.11	112.76	3.84	108.92
	8/3/2002	11.14	112.76	4.32	108.44
	9/4/2002	11.12	112.76	4.86	107.90
	10/4/2002	11.12	112.76	5.24	107.52
	11/4/2002	11.05	112.76	5.36	107.40
	12/2/2002	11.08	112.76	4.51	108.25
	1/6/2003	11.05	112.76	2.04	110.72
	2/5/2003	11.06	112.76	2.17	110.59
	3/7/2003	11.24	112.76	2.51	110.25
	4/8/2003	11.24	112.76	1.69	111.07
	5/12/2003	11.24	112.76	3.14	109.62
	8/2/2003	11.32	112.76	4.03	108.73
	11/8/2003	11.32	112.76	3.31	109.45
	2/5/2004	11.32	112.76	2.03	110.73
	5/4/2004	11.32	112.76	2.85	109.91
	8/9/2004	11.32	112.76	4.64	108.12
	11/5/2004	11.20	112.76	2.87	109.89
	2/6/2005	11.27	112.76	2.51	110.25
	5/13/2005	11.24	112.76	2.14	110.62
	8/9/2005	11.49	112.76	3.77	108.99
	11/9/2005	11.23	112.76	2.00	110.76

Table 3 (cont.)
Water Levels
 Bigfoot Gas
 2801 Central Avenue
 McKinleyville, California 95519

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation / Feet Above MSL
MW-5	5/1/2002	11.10	112.62	1.43	111.19
	5/30/2002	11.11	112.62	2.71	109.91
	7/3/2002	11.12	112.62	3.31	109.31
	8/3/2002	11.14	112.62	3.85	108.77
	9/4/2002	11.12	112.62	4.37	108.25
	10/4/2002	11.15	112.62	4.85	107.77
	11/4/2002	11.15	112.62	4.97	107.65
	12/2/2002	11.13	112.62	4.02	108.60
	1/6/2003	11.15	112.62	1.11	111.51
	2/5/2003	11.18	112.62	1.23	111.39
	3/7/2003	11.15	112.62	1.70	110.92
	4/8/2003	11.15	112.62	0.95	111.67
	5/12/2003	11.15	112.62	1.33	111.29
	8/2/2003	11.36	112.62	3.53	109.09
	11/8/2003	11.36	112.62	2.67	109.95
	2/5/2004	11.36	112.62	1.10	111.52
	5/4/2004	11.36	112.62	2.18	110.44
	8/9/2004	11.35	112.62	4.17	108.45
	11/5/2004	11.34	112.62	2.19	110.43
	2/6/2005	11.32	112.62	1.62	111.00
	5/13/2005	11.30	112.62	1.24	111.38
	8/9/2005	11.20	112.62	3.20	109.42
	11/9/2005	11.30	112.62	0.92	111.70
MW-6	5/1/2002	10.92	112.38	2.31	110.07
	5/30/2002	10.91	112.38	3.13	109.25
	7/3/2002	10.91	112.38	3.64	108.74
	8/3/2002	10.92	112.38	4.09	108.29
	9/4/2002	10.93	112.38	4.61	107.77
	10/4/2002	10.96	112.38	4.99	107.39
	11/4/2002	10.92	112.38	5.05	107.33
	12/2/2002	10.93	112.38	4.27	108.11
	1/6/2003	10.93	112.38	2.05	110.33
	2/5/2003	10.95	112.38	2.14	110.24
	3/7/2003	10.95	112.38	2.46	109.92
	4/8/2003	10.95	112.38	1.82	110.56
	5/12/2003	10.95	112.38	3.12	109.26
	8/2/2003	11.13	112.38	3.81	108.57
	11/8/2003	11.13	112.38	3.03	109.35
	2/5/2004	11.13	112.38	2.07	110.31
	5/4/2004	11.13	112.38	2.75	109.63
	8/9/2004	11.18	112.38	4.39	107.99
	11/5/2004	11.03	112.38	2.76	109.62
	2/6/2005	11.04	112.38	2.44	109.94
	5/13/2005	10.95	112.38	2.06	110.32
	8/9/2005	11.00	112.38	3.56	108.82
	11/9/2005	10.95	112.38	1.95	110.43

Notes:
 Bgs: Below Ground Surface
 MSL: Mean Sea Level

Table 4
Groundwater Analytical Results from Monitoring Wells
 Bigfoot Gas
 2801 Central Avenue
 McKinleyville, California 95519

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)	EDC (ppb)	EDB (ppb)
MW-1	Well Installation	2nd Quarter	5/1/2002	ND < 50	ND < 0.3	0.3	ND < 0.6	ND < 0.3	10.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	ND < 50	ND < 50	----	----
	1st Quarterly	3rd Quarter	8/3/2002	91	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	114	ND < 0.5	7.5	ND < 0.5	ND < 100	ND < 50	ND < 50	----	----
	2nd Quarterly	4th Quarter	11/4/2002	90.4	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	94.7	ND < 0.5	7.6	ND < 0.5	ND < 50	ND < 50	ND < 50	ND < 0.5	ND < 0.5
	3rd Quarterly	1st Quarter	2/5/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	4th Quarterly	2nd Quarter	5/12/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	5th Quarterly	3rd Quarter	8/2/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	23	ND < 0.5	1.0	ND < 0.5	ND < 50	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	6th Quarterly	4th Quarter	11/8/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	88	ND < 0.5	3.5	ND < 0.5	ND < 50	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	7th Quarterly	1st Quarter	2/5/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	8th Quarterly	2nd Quarter	5/4/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	9th Quarterly	3rd Quarter	8/9/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.5	ND < 0.5	34.0	ND < 0.5	1.2	ND < 0.5	ND < 50	160	ND < 500	ND < 0.5	ND < 0.5
	10th Quarterly	4th Quarter	11/5/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.5	ND < 0.5	14	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	11th Quarterly	1st Quarter	2/6/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	ND < 50	ND < 50	----	----
	12th Quarterly	2nd Quarter	5/13/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	ND < 50	ND < 50	----	----
	13th Quarterly	3rd Quarter	8/9/2005	ND < 50.0	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	1.6	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	ND < 50	ND < 50	----	----
	14th Quarterly	4th Quarter	11/9/2005	ND < 50.0	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	12.9	ND < 0.5	0.5	ND < 0.5	ND < 50.0	ND < 50	ND < 50	----	----
MW-2	Well Installation	2nd Quarter	5/1/2002	498	ND < 0.3	ND < 0.3	3.9	1.3	1,380	ND < 0.5	552	ND < 0.5	ND < 100	ND < 50	ND < 50	----	----
	1st Quarterly	3rd Quarter	8/3/2002	8,870	15.7	0.5	3.9	2.2	8,160	ND < 0.5	3,460	ND < 0.5	ND < 100	ND < 50	ND < 50	----	----
	2nd Quarterly	4th Quarter	11/4/2002	674	28.3	ND < 0.3	ND < 0.6	ND < 0.3	1,130	ND < 0.5	526	ND < 0.5	ND < 50	ND < 50	ND < 50	ND < 0.5	ND < 0.5
	3rd Quarterly	1st Quarter	2/5/2003	1,200	0.5	ND < 0.5	ND < 1	ND < 0.5	1,900	ND < 0.5	800	4.9	690	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	4th Quarterly	2nd Quarter	5/12/2003	540	ND < 50	ND < 50	ND < 100	ND < 50	730	ND < 50	140	ND < 50	ND < 500	ND < 50	ND < 500	ND < 0.5	ND < 50
	5th Quarterly	3rd Quarter	8/2/2003	ND < 5,000	ND < 50	ND < 50	ND < 100	ND < 50	1,200	ND < 50	430	ND < 50	ND < 500	140	ND < 500	ND < 50	ND < 50
	6th Quarterly	4th Quarter	11/8/2003	790	ND < 50	ND < 50	ND < 100	ND < 50	4,200	ND < 50	1,800	ND < 50	ND < 500	150	ND < 500	ND < 50	ND < 50
	7th Quarterly	1st Quarter	2/5/2004	440	ND < 50	85	120	ND < 50	1,700	ND < 50	860	ND < 50	ND < 500	93	ND < 500	ND < 50	ND < 50
	8th Quarterly	2nd Quarter	5/4/2004	1,300	ND < 5.0	ND < 5.0	ND < 10.0	ND < 5.0	1,200	ND < 50	530	ND < 50	ND < 500	190	ND < 500	ND < 50	ND < 50
	9th Quarterly	3rd Quarter	8/9/2004	1,900	ND < 5.0	ND < 5.0	ND < 15.0	ND < 5.0	2,700	ND < 5.0	1,100	7.2	730	420	ND < 500	ND < 5.0	ND < 5.0
	10th Quarterly	4th Quarter	11/5/2004	1,400	5.8	ND < 5.0	ND < 15.0	ND < 5.0	970	ND < 5.0	460	ND < 5.0	230	160	ND < 500	ND < 5.0	ND < 5.0
	11th Quarterly	1st Quarter	2/6/2005	1,230	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	1,170	ND < 0.5	504	3.6	279	208	166	----	----
	12th Quarterly	2nd Quarter	5/13/2005	658	ND < 2.0	ND < 2.0	ND < 4.0	ND < 2.0	533	ND < 2.0	241	ND < 2.0	ND < 200	136	120	----	----
	13th Quarterly	3rd Quarter	8/9/2005	3,080	ND < 2.5	ND < 2.5	ND < 5.0	ND < 2.5	1,970	ND < 2.5	787	5.8	373	520	312	----	----
	14th Quarterly	4th Quarter	11/9/2005	1,680	ND < 5.0	ND < 5.0	ND < 10.0	ND < 5.0	1,980	ND < 5.0	760	5.7	ND < 500	408	253	----	----
MW-3	Well Installation	2nd Quarter	5/1/2002	102	2.9	ND < 0.3	5.0	0.8	153	ND < 0.5	46.3	ND < 0.5	ND < 100	ND < 50	ND < 50	----	----
	1st Quarterly	3rd Quarter	8/3/2002	8,260	383	145	1,970	420	4,000	ND < 0.5	1,580	ND < 0.5	ND < 100	916	ND < 50	----	----
	2nd Quarterly	4th Quarter	11/4/2002	537	30.8	0.7	39.5	24.9	928	ND < 0.5	358	ND < 0.5	ND < 50	ND < 50	ND < 50	ND < 0.5	ND < 0.5
	3rd Quarterly	1st Quarter	2/5/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	100	ND < 0.5	27	ND < 0.5	17	ND < 50	ND < 500	1.6	ND < 0.5
	4th Quarterly	2nd Quarter	5/12/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	28	ND < 0.5	5.5	ND < 0.5	ND < 50	ND < 50	ND < 500	1.2	ND < 0.5
	5th Quarterly	3rd Quarter	8/2/2003	6,400	75	ND < 5.0	1,000	460	1,200	ND < 5.0	540	ND < 5.0	530	ND < 50	ND < 500	ND < 5.0	ND < 5.0
	6th Quarterly	4th Quarter	11/8/2003	52	ND < 0.5	ND < 0.5	1.2	0.5	120	ND < 0.5	68	ND < 0.5	ND < 50	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	7th Quarterly	1st Quarter	2/5/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	40	ND < 0.5	9.4	ND < 0.5	ND < 50	ND < 50	ND < 500	0.9	ND < 0.5
	8th Quarterly	2nd Quarter	5/4/2004	82	ND < 0.5	ND < 0.5	0.5	ND < 0.5	57	ND < 0.5	32	ND < 0.5	ND < 50	55	ND < 500	ND < 0.5	ND < 0.5
	9th Quarterly	3rd Quarter	8/9/2004	970	6.0	ND < 0.5	ND < 1.5	3.6	1,500	ND < 0.5	530	ND < 0.5	90	250	ND < 500	1.5	ND < 0.5
	10th Quarterly	4th Quarter	11/5/2004	100	ND < 0.5	ND < 0.5	ND < 1.5	ND < 0.5	63	ND < 0.5	19	ND < 0.5	ND < 50	240	ND < 500	ND < 0.5	ND < 0.5
	11th Quarterly	1st Quarter	2/6/2005	183	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	172	ND < 0.5	56.1	ND < 0.5	ND < 50	51	95	----	----
	12th Quarterly	2nd Quarter	5/13/2005	183	ND < 1.2	ND < 1.2	ND < 2.5	ND < 1.2	163	ND < 1.2	52.6	ND < 1.2	ND < 125	70	84	----	----
	13th Quarterly	3rd Quarter	8/9/2005	379	ND < 1.0	ND < 1.0	ND < 2.0	ND < 1.0	252	ND < 1.0	102	ND < 1.0	ND < 100	63	76	----	----
	14th Quarterly	4th Quarter	11/9/2005	155	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	154	ND < 0.5	63.5	ND < 0.5	ND < 50.0	ND < 50	70	----	----

TPHg: Total petroleum hydrocarbons as gasoline
 MTBE: Methyl tertiary butyl ether
 DIPE: Diisopropyl ether
 TAME: Tertiary amyl methyl ether
 TPHd: Total petroleum hydrocarbons as diesel

TBA: Tertiary butanol
 ETBE: Ethyl tertiary butyl ether
 TPHmo: Total petroleum hydrocarbons as motor oil
 ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm
 ND: Not detected. Sample was detected at or below the method detection limit as shown.

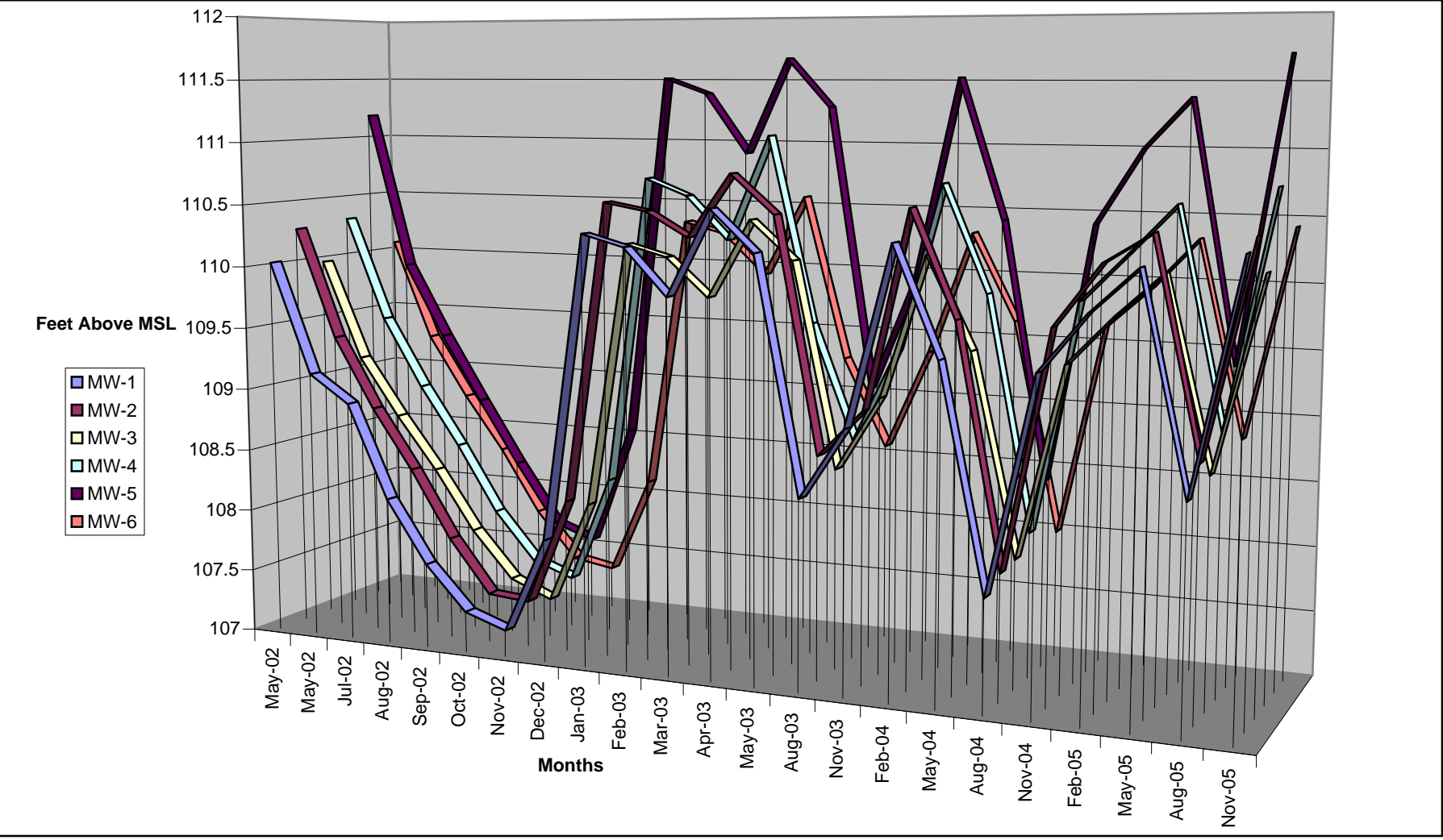
Table 4 (cont.)
Groundwater Analytical Results from Monitoring Wells
 Bigfoot Gas
 2801 Central Avenue
 McKinleyville, California 95519

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)	EDC (ppb)	EDB (ppb)
MW-4	Well Installation	2nd Quarter	5/1/2002	7,970	157	356	1,270	483	ND < 20	ND < 5	ND < 5	ND < 5	ND < 1,000	489	ND < 50	----	----
	1st Quarterly	3rd Quarter	8/3/2002	9,150	193	720	2,430	1,080	53	ND < 15	ND < 15	ND < 15	ND < 5,000	2,770	ND < 50	----	----
	2nd Quarterly	4th Quarter	11/4/2002	6,090	207	343	712	530	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	159	ND < 50	ND < 0.5	ND < 0.5
	3rd Quarterly	1st Quarter	2/5/2003	20,000	170	120	890	600	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	2,000	ND < 500	ND < 5.0	ND < 5.0
	4th Quarterly	2nd Quarter	5/12/2003	6,200	96	77	248	220	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	680	ND < 500	ND < 50	ND < 50
	5th Quarterly	3rd Quarter	8/2/2003	7,700	130	59	406	470	31	ND < 5.0	20	ND < 5.0	ND < 50	ND < 50	ND < 500	ND < 5.0	ND < 5.0
	6th Quarterly	4th Quarter	11/8/2003	7,900	260	190	385	480	56	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	500	ND < 500	ND < 5.0	ND < 5.0
	7th Quarterly	1st Quarter	2/5/2004	7,600	180	110	334	460	29	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 500	ND < 5.0	ND < 5.0
	8th Quarterly	2nd Quarter	5/4/2004	8,000	130	140	504	420	19	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	1,300	ND < 500	ND < 5.0	ND < 5.0
	9th Quarterly	3rd Quarter	8/9/2004	5,600	120	44	302	360	67	ND < 5.0	13	ND < 5.0	ND < 50	850	ND < 500	ND < 5.0	ND < 5.0
	10th Quarterly	4th Quarter	11/5/2004	58	1.0	ND < 0.5	ND < 1.5	ND < 0.5	6.7	ND < 0.5	2.8	ND < 0.5	ND < 5.0	120	ND < 500	ND < 0.5	ND < 0.5
	11th Quarterly	1st Quarter	2/6/2005	6,230	83.5	120	602	343	11.5	ND < 2.0	ND < 2.0	ND < 2.0	ND < 200	729	121	----	----
	12th Quarterly	2nd Quarter	5/13/2005	3,950	31.4	80.4	493	193	ND < 5.0	ND < 2.5	ND < 2.5	ND < 2.5	ND < 250	708	106	----	----
	13th Quarterly	3rd Quarter	8/9/2005	5,270	59.5	53.2	299	210	14.2	ND < 1.2	1.9	ND < 1.2	ND < 125	929	147	----	----
	14th Quarterly	4th Quarter	11/9/2005	5,040	79.3	72.1	202	219	23.3	ND < 0.5	1.2	ND < 0.5	ND < 50	1,020	127	----	----
MW-5	Well Installation	2nd Quarter	5/1/2002	63,800	ND < 150	1,270	19,500	1,720	ND < 1,000	ND < 250	ND < 250	ND < 250	ND < 50,000	4,420	396	----	----
	1st Quarterly	3rd Quarter	8/3/2002	30,500	ND < 15	486	17,700	1,760	ND < 25	ND < 15	ND < 15	ND < 15	ND < 5,000	9,630	ND < 50	----	----
	2nd Quarterly	4th Quarter	11/4/2002	81,000	789	ND < 300	24,600	3,710	2,330	ND < 500	1,570	ND < 500	ND < 100,000	3,870	ND < 50	ND < 500	ND < 500
	3rd Quarterly	1st Quarter	2/5/2003	78,000	51	1,600	16,800	1,600	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	ND < 50	ND < 500	ND < 50	ND < 50
	4th Quarterly	2nd Quarter	5/12/2003	43,000	ND < 50	790	13,400	1,200	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	4,100	ND < 500	ND < 50	ND < 50
	5th Quarterly	3rd Quarter	8/2/2003	17,000	ND < 50	120	3,890	400	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	ND < 50	ND < 500	ND < 50	ND < 50
	6th Quarterly	4th Quarter	11/8/2003	43,000	ND < 50	760	16,100	1,500	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	4,100	ND < 500	ND < 50	ND < 50
	7th Quarterly	1st Quarter	2/5/2004	39,000	50	1,400	22,500	2,000	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	ND < 50	ND < 500	ND < 50	ND < 50
	8th Quarterly	2nd Quarter	5/4/2004	54,000	ND < 50	720	12,800	1,300	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	19,000	ND < 500	ND < 50	ND < 50
	9th Quarterly	3rd Quarter	8/9/2004	37,000	ND < 50	320	10,000	1,100	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	8,500	ND < 500	ND < 50	ND < 50
	10th Quarterly	4th Quarter	11/5/2004	9,800	ND < 50	68	1,940	170	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	890	ND < 500	ND < 50	ND < 50
	11th Quarterly	1st Quarter	2/6/2005	13,800	5.5	174	4,090	407	ND < 10	ND < 5.0	ND < 5.0	ND < 5.0	ND < 500	1,650	151	----	----
	12th Quarterly	2nd Quarter	5/13/2005	12,600	ND < 10	197	4,050	393	ND < 20	ND < 10	ND < 10	ND < 10	ND < 1,000	1,190	113	----	----
	13th Quarterly	3rd Quarter	8/9/2005	12,000	ND < 10	45.8	3,160	322	ND < 20.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 1,000	1,350	177	----	----
	14th Quarterly	4th Quarter	11/9/2005	4,590	2.7	29.1	1,440	141	ND < 5.0	ND < 2.5	ND < 2.5	ND < 2.5	ND < 250	825	179	----	----
MW-6	Well Installation	2nd Quarter	5/1/2002	3,750	845	576	1,070	155	980	ND < 0.5	791	ND < 0.5	ND < 100	ND < 50	ND < 50	----	----
	1st Quarterly	3rd Quarter	8/3/2002	11,800	508	62	8,630	1,640	750	ND < 15	300	ND < 15	ND < 5,000	1,900	ND < 50	----	----
	2nd Quarterly	4th Quarter	11/4/2002	9,480	535	35.2	3,420	743	1,330	ND < 0.5	558	ND < 0.5	ND < 50	190	ND < 50	ND < 0.5	ND < 0.5
	3rd Quarterly	1st Quarter	2/5/2003	4,500	20	ND < 5.0	583	190	ND < 5.0	ND < 5.0	17	ND < 5.0	ND < 50	1,200	ND < 500	ND < 5.0	ND < 5.0
	4th Quarterly	2nd Quarter	5/12/2003	2,200	22	1.2	244	160	68	ND < 0.5	14	ND < 0.5	60	280	ND < 500	0.9	ND < 0.5
	5th Quarterly	3rd Quarter	8/2/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	2,500	ND < 0.5	ND < 0.5
	6th Quarterly	4th Quarter	11/8/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	1.3	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	7th Quarterly	1st Quarter	2/5/2004	110	4.2	ND < 0.5	ND < 1.0	ND < 0.5	16	ND < 0.5	5.6	ND < 0.5	ND < 5.0	ND < 50	ND < 500	ND < 0.5	ND < 0.5
	8th Quarterly	2nd Quarter	5/4/2004	2,200	25	2.4	200.5	4.0	69	ND < 0.5	17	ND < 0.5	27	590	ND < 500	ND < 0.5	ND < 0.5
	9th Quarterly	3rd Quarter	8/9/2004	880	14	ND < 5.0	ND < 15	ND < 5.0	220	ND < 5.0	16	ND < 5.0	280	470	ND < 500	ND < 5.0	ND < 5.0
	10th Quarterly	4th Quarter	11/5/2004	110	3.6	ND < 0.5	ND < 1.5	ND < 0.5	16	ND < 0.5	3.2	ND < 0.5	ND < 5.0	1,000	ND < 500	ND < 0.5	ND < 0.5
	11th Quarterly	1st Quarter	2/6/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	3.6	ND < 0.5	1.0	ND < 0.5	ND < 50	ND < 50	86	----	----
	12th Quarterly	2nd Quarter	5/13/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	2.1	ND < 0.5	0.8	ND < 0.5	ND < 50	ND < 50	71	----	----
	13th Quarterly	3rd Quarter	8/9/2005	ND < 50	0.8	ND < 0.5	ND < 1.0	ND < 0.5	8.2	ND < 0.5	3.2	ND < 0.5	ND < 50.0	ND < 50	87	----	----
	14th Quarterly	4th Quarter	11/9/2005	167	2.2	ND < 0.5	ND < 1.0	ND < 0.5	14.5	ND < 0.5	5.7	ND < 0.5	ND < 50.0	83	255	----	----

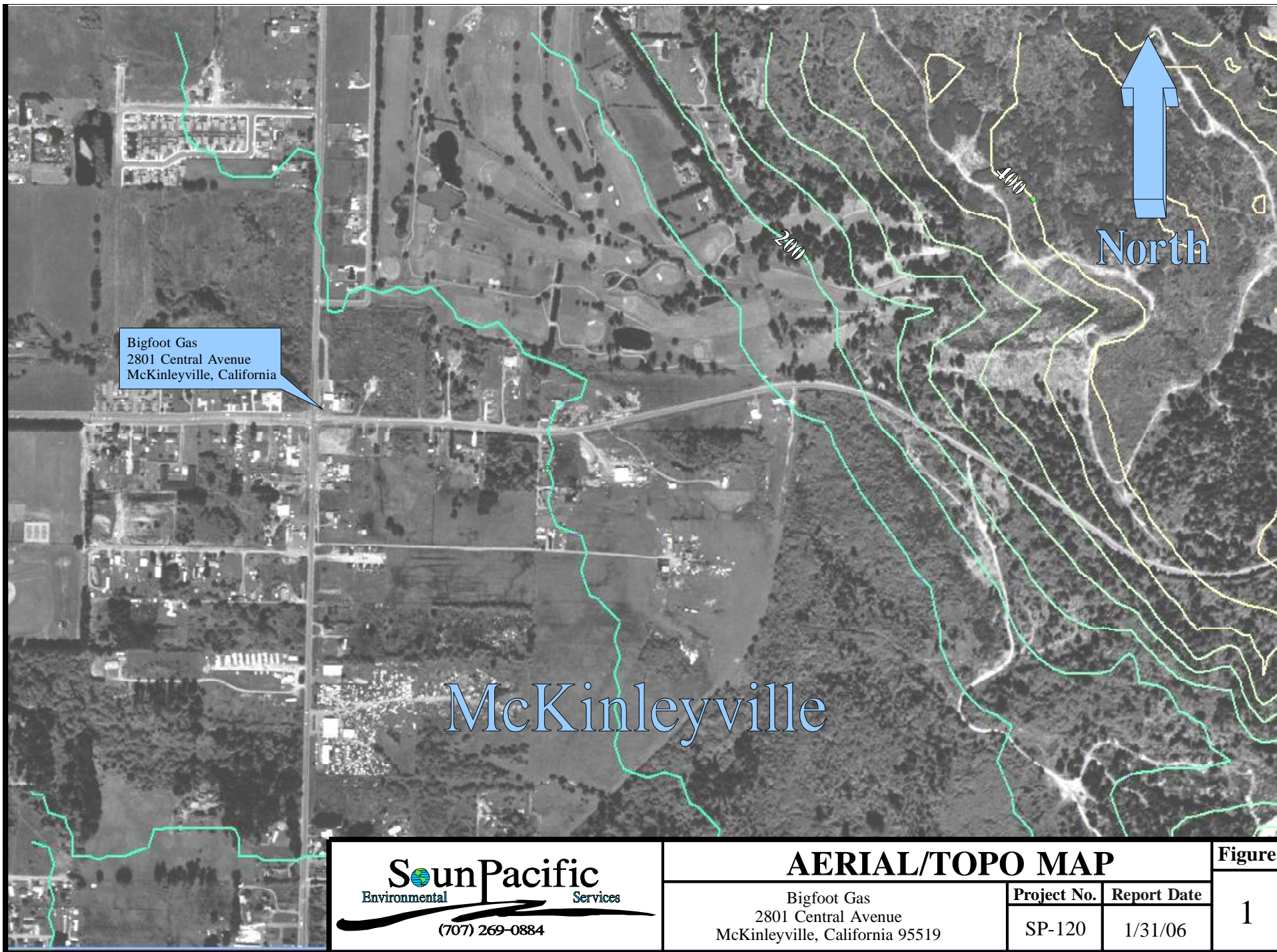
TPHg: Total petroleum hydrocarbons as gasoline
 MTBE: Methyl tertiary butyl ether
 DIPE: Diisopropyl ether
 TAME: Tertiary amyl methyl ether
 TPHd: Total petroleum hydrocarbons as diesel

TBA: Tertiary butanol
 ETBE: Ethyl tertiary butyl ether
 TPHmo: Total petroleum hydrocarbons as motor oil
 ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm
 ND: Not detected. Sample was detected at or below the method detection limit as shown.

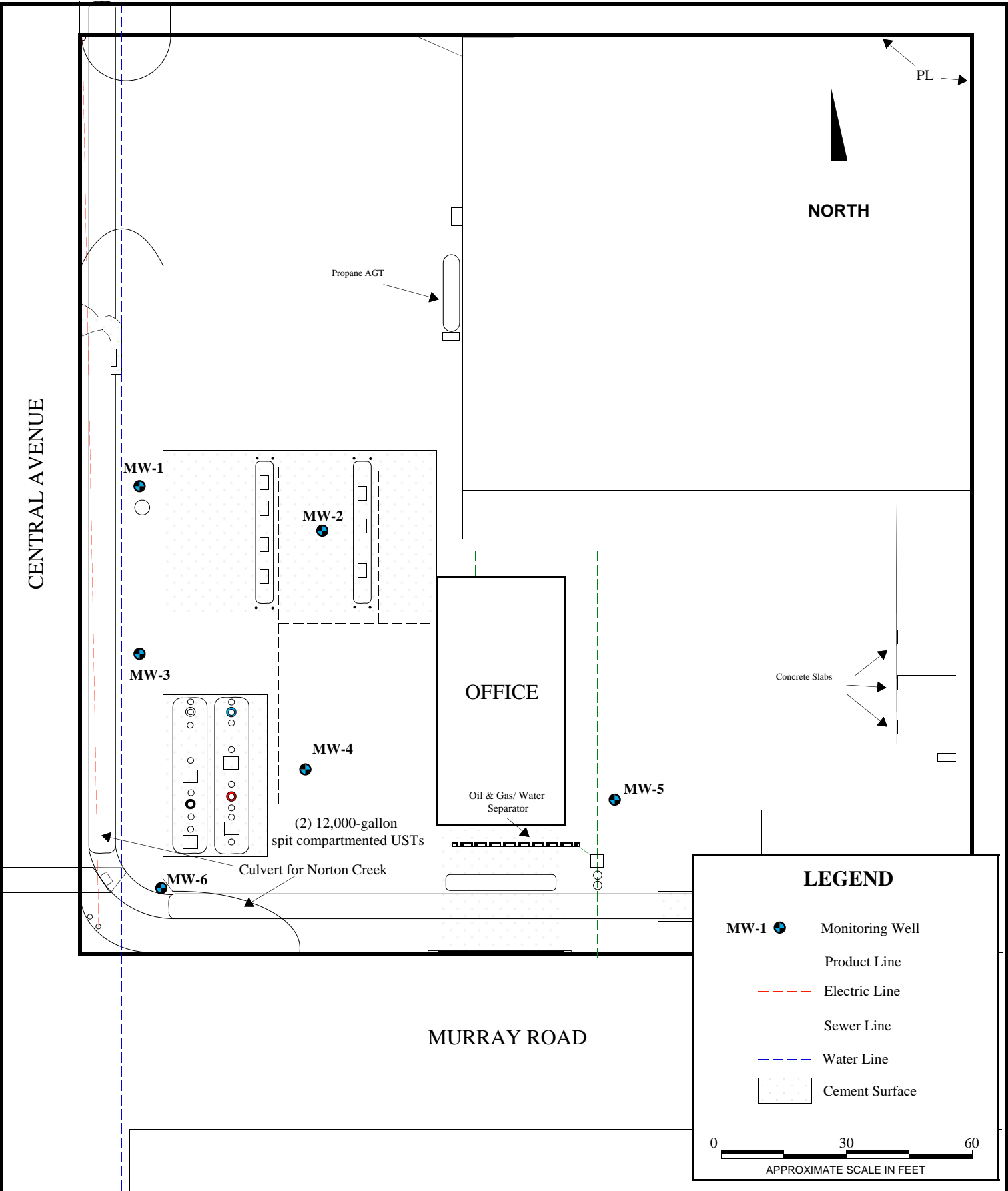
Chart 1
Hydrograph
Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519



Figures



 Soun Pacific Environmental Services (707) 269-0884	AERIAL/TOPO MAP		Figure
	Bigfoot Gas 2801 Central Avenue McKinleyville, California 95519	Project No. SP-120	Report Date 1/31/06
			1



SITE PLAN

Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Project No.

SP-120

Report Date

1/31/06



















Figure

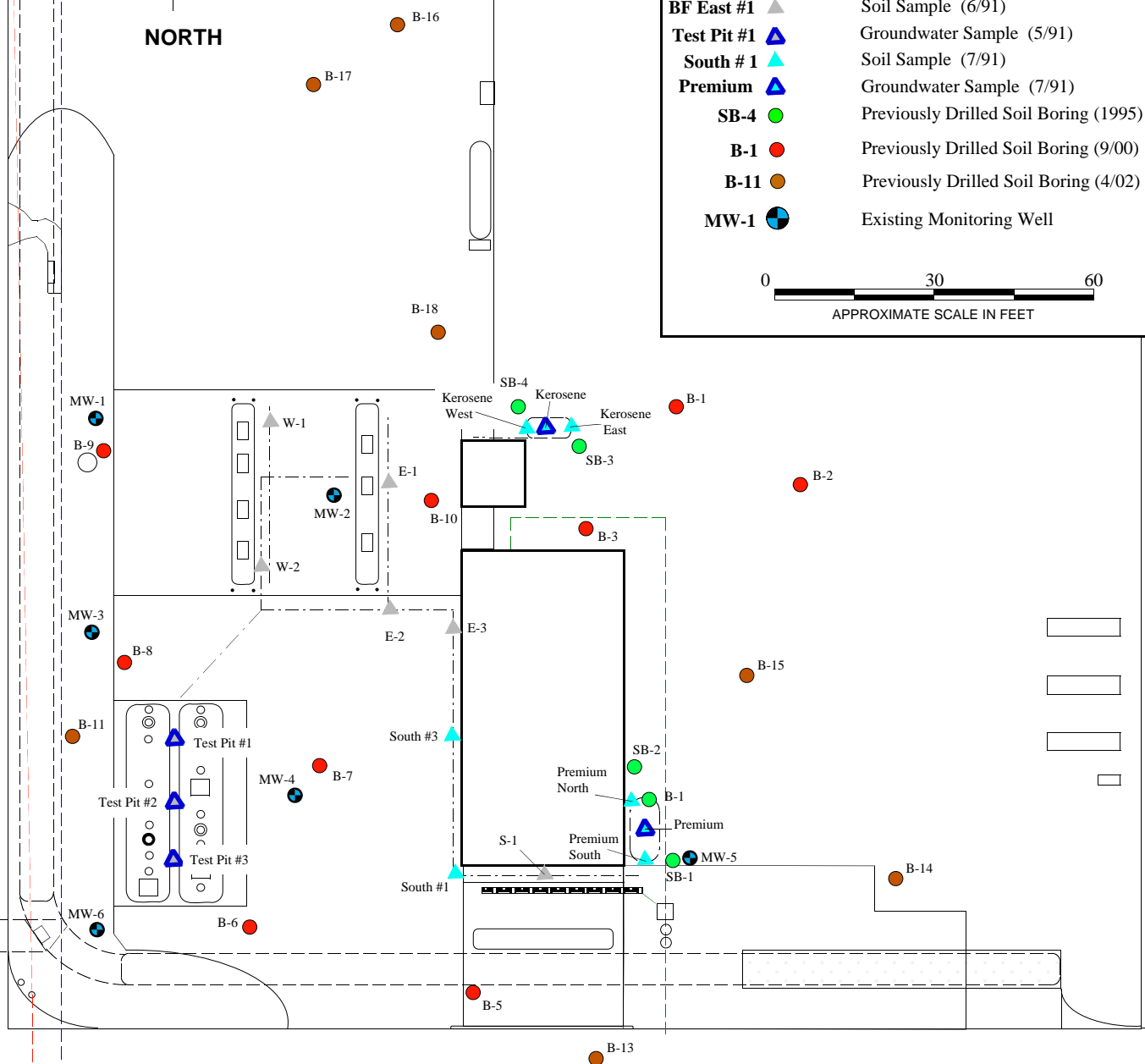
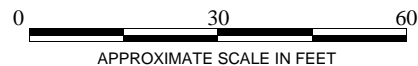
2

CENTRAL AVENUE

NORTH

LEGEND

-  Removed UST
-  Product Lines
-  BF East #1
-  Test Pit #1
-  South #1
-  Premium
-  SB-4
-  B-1
-  B-11
-  MW-1
-  Soil Sample (6/91)
-  Groundwater Sample (5/91)
-  Soil Sample (7/91)
-  Groundwater Sample (7/91)
-  Previously Drilled Soil Boring (1995)
-  Previously Drilled Soil Boring (9/00)
-  Previously Drilled Soil Boring (4/02)
-  Existing Monitoring Well



MURRAY ROAD

SAMPLE LOCATION MAP

Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Project No.

SP-120

Report Date

1/31/06

Figure

3

Environmental

Services

CENTRAL AVENUE

NORTH

Elevation Above
MSL

PL

MW-1

Casing Elevation: 111.57
Depth to Water: 1.20
Elevation above MSL: 110.37

MW-3

Casing Elevation: 112.13
Depth to Water: 1.95
Elevation above MSL: 110.18

MW-2

Casing Elevation: 113.03
Depth to Water: 2.57
Elevation above MSL: 110.46

MW-5

Casing Elevation: 112.62
Depth to Water: 0.92
Elevation above MSL: 111.70

MW-4

Casing Elevation: 112.76
Depth to Water: 2.00
Elevation above MSL: 110.76

MW-6

Casing Elevation: 112.38
Depth to Water: 1.95
Elevation above MSL: 110.43

MURRAY ROAD

GW Flow Direction: W
GW Gradient: 0.012 ft/ft

LEGEND



Monitoring Well

0 30 60

APPROXIMATE SCALE IN FEET

GROUNDWATER GRADIENT MAP

November 2005

Figure

4

Environmental

Services

Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Project No.

SP-120

Report Date

1/31/06

CENTRAL AVENUE

NORTH

PL

Groundwater Results MW-1		
MTBE	12.9	ppb
TAME	0.5	ppb

Groundwater Results MW-2		
TPHg	1,680	ppb
MTBE	1,980	ppb
TAME	760	ppb
ETBE	5.7	ppb
TPHd	408	ppb
TPHmo	253	ppb

Groundwater Results MW-3		
TPHg	155	ppb
MTBE	154	ppb
TAME	63.5	ppb
TPHmo	70	ppb

Groundwater Results MW-5		
TPHg	4,590	ppb
BTXE	1,612.8	ppb
TPHd	825	ppb
TPHmo	179	ppb

Groundwater Results MW-4		
TPHg	5,040	ppb
BTXE	572.4	ppb
MTBE	23.3	ppb
TAME	1.2	ppb
TPHd	1,020	ppb
TPHmo	127	ppb

Groundwater Results MW-6		
TPHg	167	ppb
Benzene	2.2	ppb
MTBE	14.5	ppb
TAME	5.7	ppb
TPHd	83	ppb
TPHmo	255	ppb

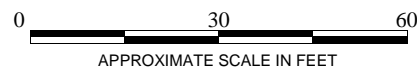
OFFICE

MURRAY ROAD

LEGEND



Monitoring Well



GROUNDWATER ANALYTICAL RESULTS

Figure

5

Environmental
Services

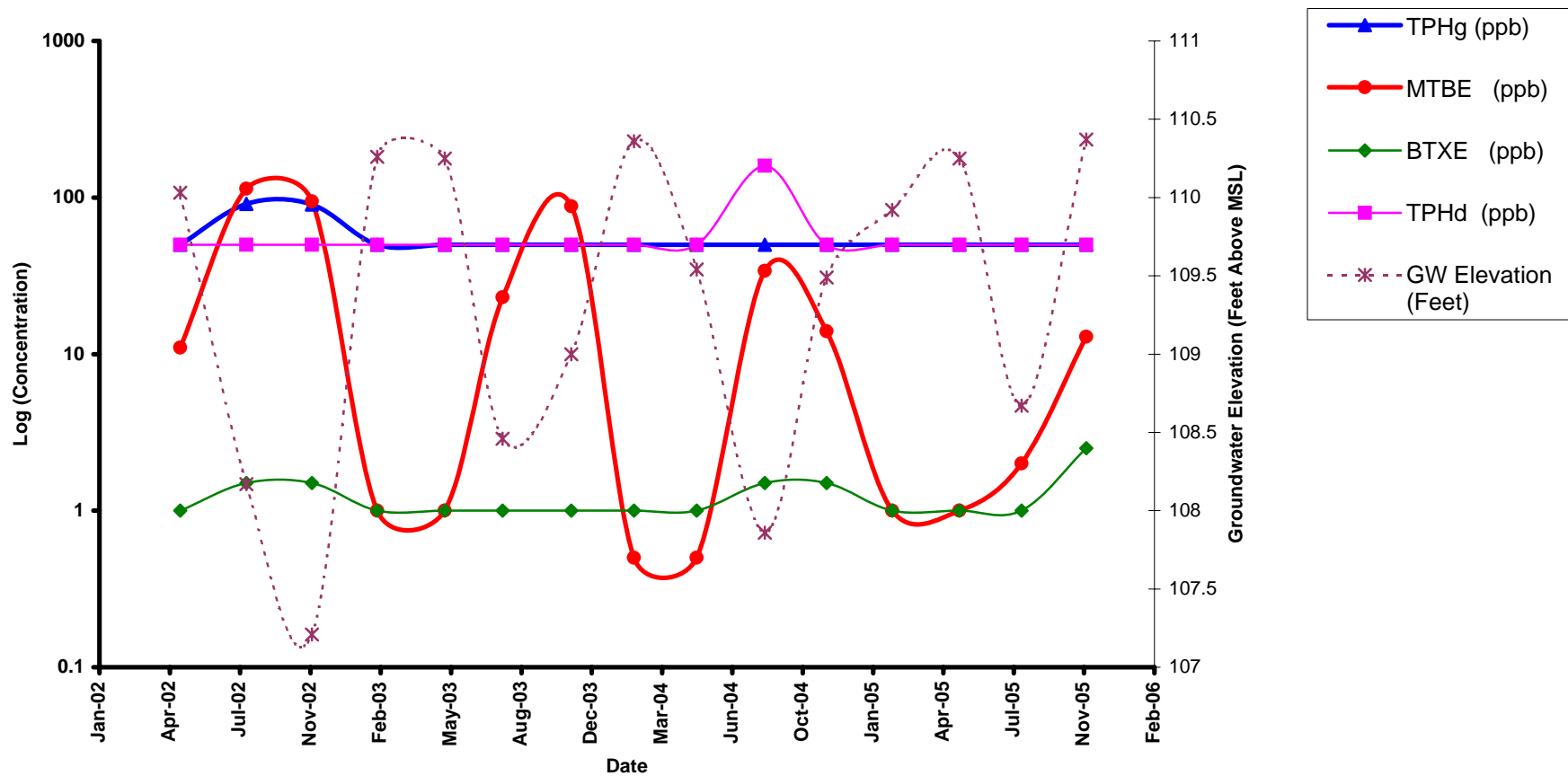
Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Project No.

SP-120

Report Date

1/31/06



MW-1 HYDROCARBON CONCENTRATIONS VS. TIME

Bigfoot Gas
 2801 Central Avenue
 McKinleyville, California 95519

Project No.

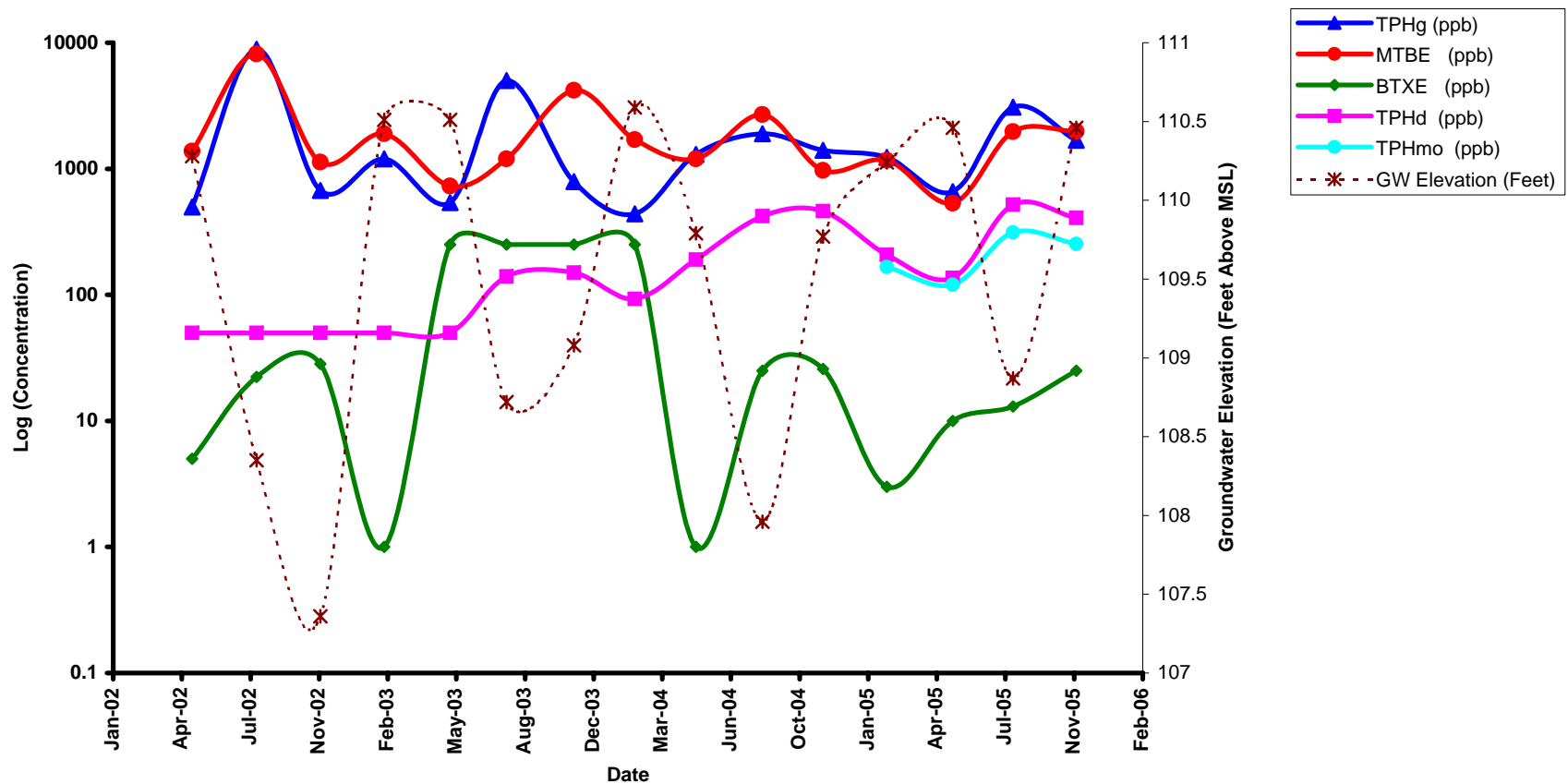
SP-120

Date

1/31/2006

Figure

6



MW-2 HYDROCARBON CONCENTRATIONS VS. TIME

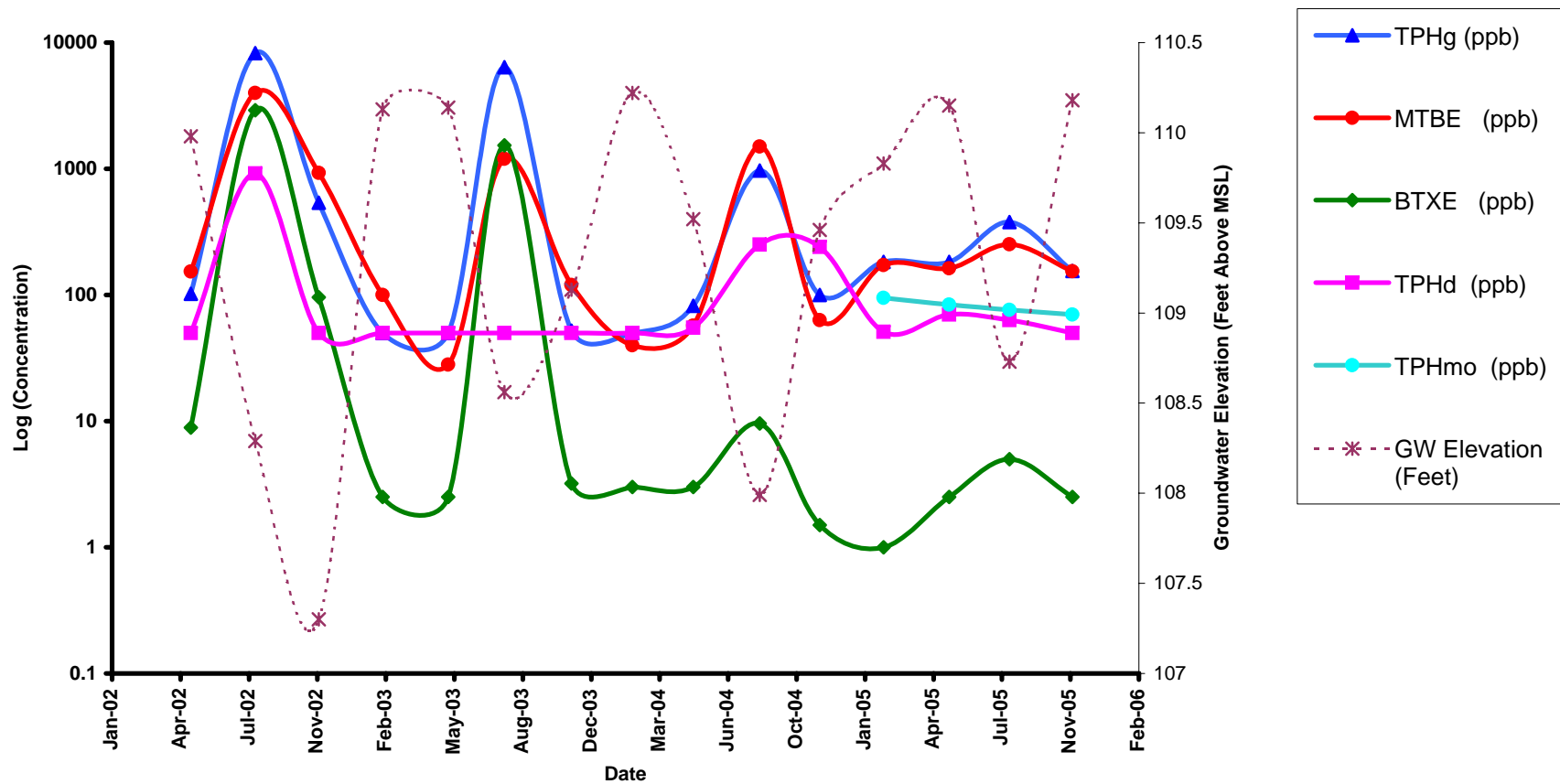
Bigfoot Gas
 2801 Central Avenue
 McKinleyville, California 95519

Project No.
 SP-120

Date
 1/31/2006

Figure

7



MW-3 HYDROCARBON CONCENTRATIONS VS. TIME

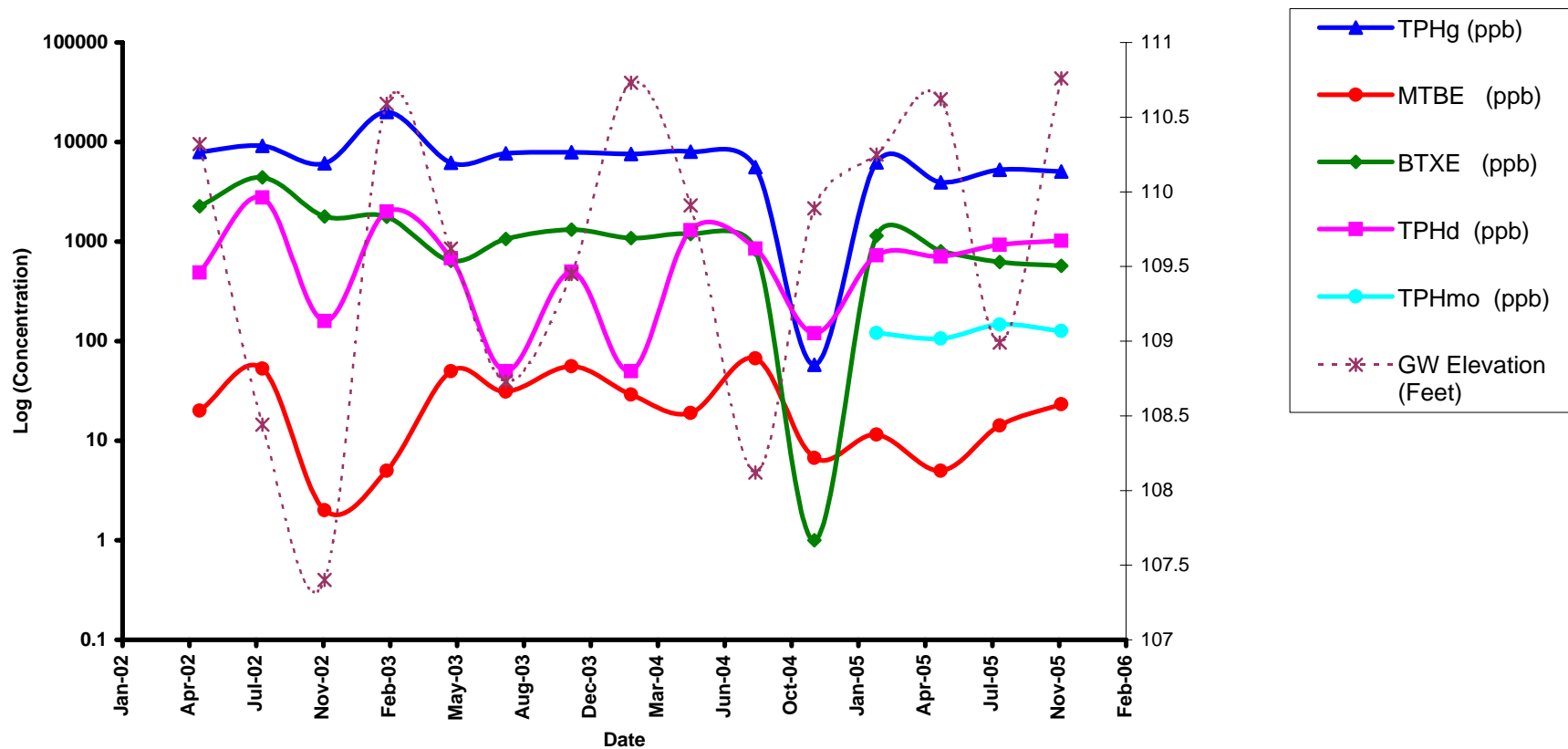
Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Project No.
SP-120

Date
1/31/2006

Figure

8



MW-4 HYDROCARBON CONCENTRATIONS VS. TIME

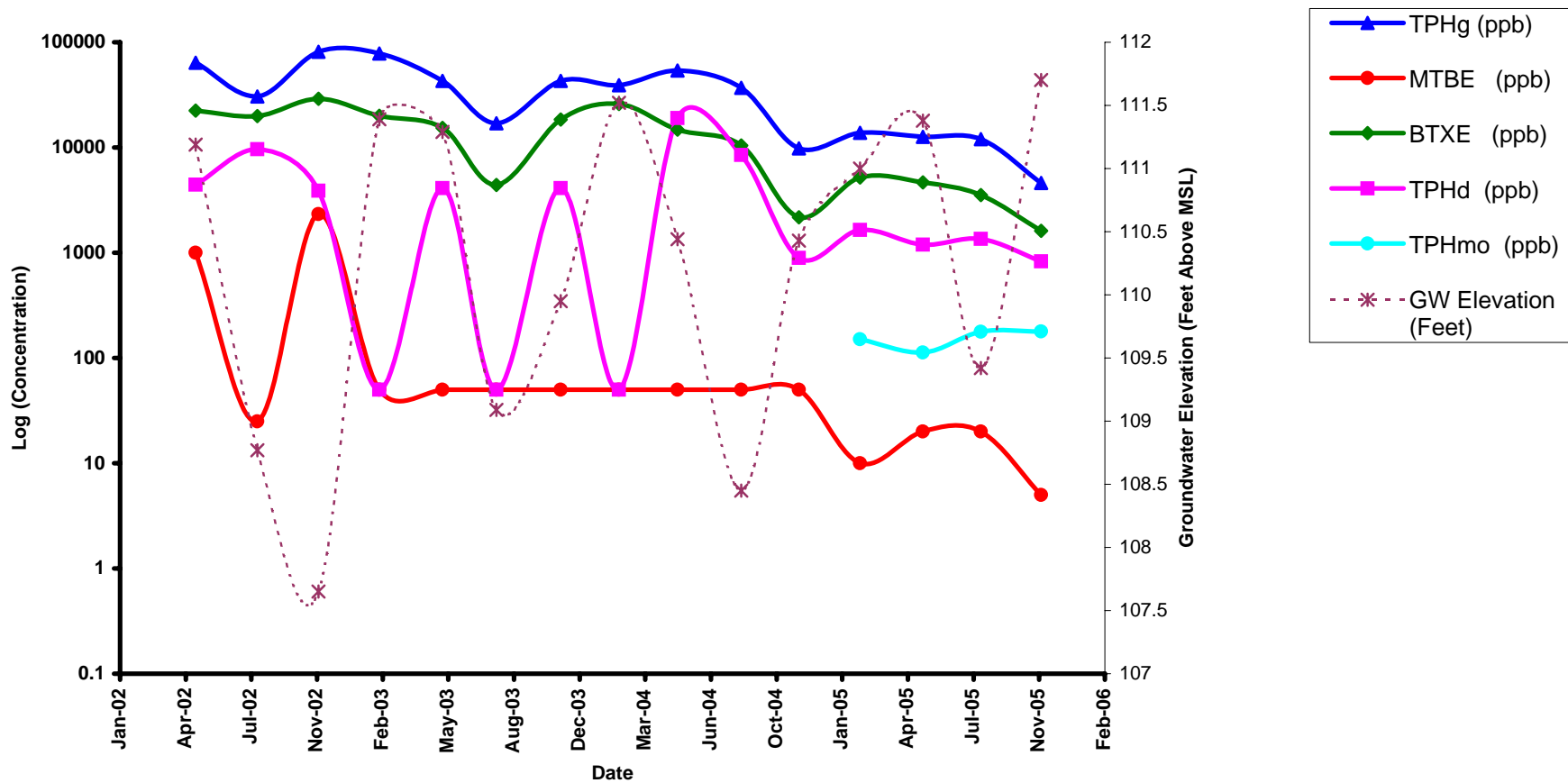
Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Project No.
SP-120

Date
1/31/2006

Figure

9



MW-5 HYDROCARBON CONCENTRATIONS VS. TIME

Bigfoot Gas
2801 Central Avenue
McKinleyville, California 95519

Project No.

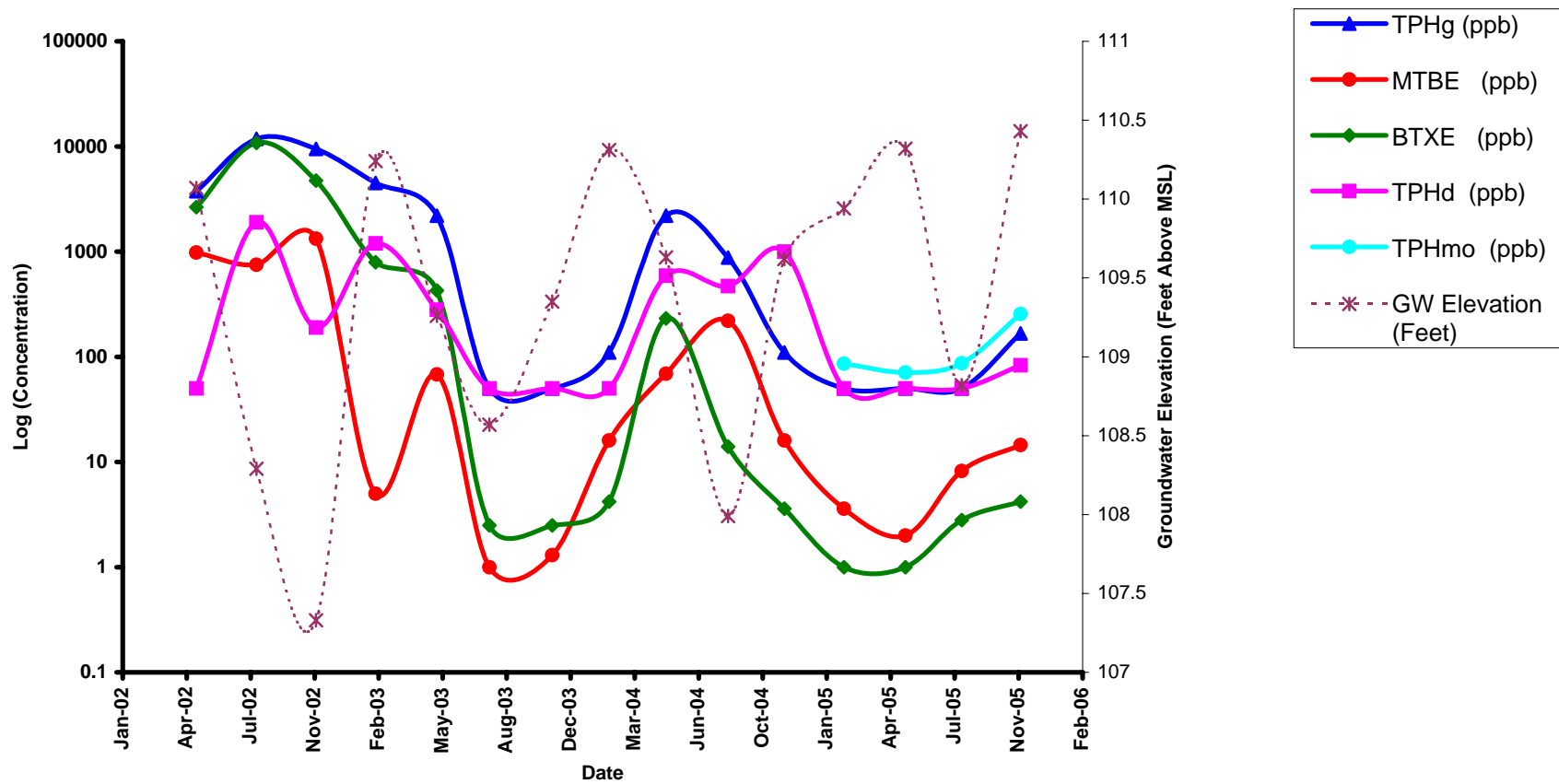
SP-120

Date

1/31/2006

Figure

10



SounPacific
 Environmental Services
 (707) 269-0884

**MW-6 HYDROCARBON
 CONCENTRATIONS VS. TIME**

Bigfoot Gas
 2801 Central Avenue
 McKinleyville, California 95519

Project No.

SP-120

Date

1/31/2006

Figure

11

Appendices

Appendix A



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voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

November 30, 2005

Lab ID: 5110549

Greg Sounhein
SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
RE: BIGFOOT GAS SP-120

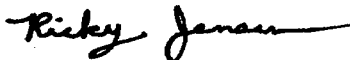
Dear Greg Sounhein,

Enclosed are the analysis results for Work Order number 5110549. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,


For



Ricky D. Jensen
Laboratory Director

California ELAP Certification Number 1677



www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001


Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Greg Sounhein
Project: BIGFOOT GAS SP-120

Lab No: 5110549
Reported: 11/30/05
Phone: (707) 269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-1 Water (5110549-01) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	11/14/05	11/14/05	B5K0342
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	12.9			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	0.5			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		94.2 %			43-155	"	"	"	"
MW-2 Water (5110549-02) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Gasoline	ug/l	1680	R-07		500	EPA 8015/8260	11/14/05	11/14/05	B5K0342
Benzene	"	ND	R-07		5.0	"	"	"	"
Toluene	"	ND	R-07		5.0	"	"	"	"
Ethylbenzene	"	ND	R-07		5.0	"	"	"	"
Xylenes (total)	"	ND	R-07		10.0	"	"	"	"
Methyl tert-butyl ether	"	1980	R-01, R-07		100	"	11/14/05	"	"
Di-isopropyl ether	"	ND	R-07		5.0	"	11/14/05	"	"
Tert-amyl methyl ether	"	760	R-01, R-07		50.0	"	11/14/05	"	"
Ethyl tert-butyl ether	"	5.7	R-07		5.0	"	11/14/05	"	"
Tert-butyl alcohol	"	ND	R-07		500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		94.8 %			43-155	"	"	"	"
MW-3 Water (5110549-03) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Gasoline	ug/l	155			50.0	EPA 8015/8260	11/14/05	11/14/05	B5K0342
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	154	R-01		10.0	"	11/14/05	"	"
Di-isopropyl ether	"	ND			0.5	"	11/14/05	"	"
Tert-amyl methyl ether	"	63.5			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		98.2 %			43-155	"	"	"	"
MW-4 Water (5110549-04) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Gasoline	ug/l	5040	R-01		500	EPA 8015/8260	11/14/05	11/14/05	B5K0342
Benzene	"	79.3			0.5	"	11/14/05	"	"
Toluene	"	72.1			0.5	"	"	"	"
Ethylbenzene	"	219	R-01		5.0	"	11/14/05	"	"
Xylenes (total)	"	202	R-01		10.0	"	"	"	"
Methyl tert-butyl ether	"	23.3			1.0	"	11/14/05	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	1.2			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		104 %			43-155	"	"	"	"
MW-5 Water (5110549-05) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Gasoline	ug/l	4590	R-07		250	EPA 8015/8260	11/14/05	11/14/05	B5K0342
Benzene	"	2.7	R-07		2.5	"	"	"	"
Toluene	"	29.1	R-07		2.5	"	"	"	"


Approved By

Basic Laboratory, Inc.
California D.O.H.S. Cert #1677



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voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

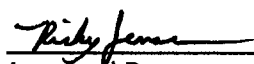
Attention: Greg Sounhein

Project: BIGFOOT GAS SP-120

Lab No: 5110549
Reported: 11/30/05
Phone: (707) 269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-5 Water (5110549-05) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Ethylbenzene	"	141	R-07		2.5	"	"	11/14/05	"
Xylenes (total)	"	1440	R-01, R-07		20.0	"	11/14/05	"	"
Methyl tert-butyl ether	"	ND	R-07		5.0	"	11/14/05	"	"
Di-isopropyl ether	"	ND	R-07		2.5	"	"	"	"
Tert-amyl methyl ether	"	ND	R-07		2.5	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-07		2.5	"	"	"	"
Tert-butyl alcohol	"	ND	R-07		250	"	"	"	"
Surrogate: 4-Bromofluorobenzene		102 %		43-155		"	"	"	"
MW-6 Water (5110549-06) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Gasoline	ug/l	167			50.0	EPA 8015/8260	11/14/05	11/14/05	B5K0342
Benzene	"	2.2			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	14.5			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	5.7			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		105 %		43-155		"	"	"	"



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fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Greg Sounhein
Project: BIGFOOT GAS SP-120

Lab No: 5110549
Reported: 11/30/05
Phone: (707) 269-0884
P.O. #

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-1 Water (5110549-01) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Diesel	ug/l	ND			50	EPA 8015 MOD	11/21/05	11/11/05	B5K0303
Motor Oil	"	ND			50	"	"	"	"
Surrogate: Octacosane		111 %		50-150		"	"	"	"
MW-2 Water (5110549-02) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Diesel	ug/l	408			50	EPA 8015 MOD	11/21/05	11/11/05	B5K0303
Motor Oil	"	253			50	"	"	"	"
Surrogate: Octacosane		113 %		50-150		"	"	"	"
MW-3 Water (5110549-03) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Diesel	ug/l	ND			50	EPA 8015 MOD	11/21/05	11/11/05	B5K0303
Motor Oil	"	70			50	"	"	"	"
Surrogate: Octacosane		19.6 %	S-07	50-150		"	"	"	"
MW-4 Water (5110549-04) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Diesel	ug/l	1020			50	EPA 8015 MOD	11/21/05	11/11/05	B5K0303
Motor Oil	"	127			50	"	"	"	"
Surrogate: Octacosane		80.7 %		50-150		"	11/23/05	"	"
MW-5 Water (5110549-05) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Diesel	ug/l	825			50	EPA 8015 MOD	11/22/05	11/11/05	B5K0303
Motor Oil	"	179			50	"	"	"	"
Surrogate: Octacosane		60.1 %		50-150		"	11/23/05	"	"
MW-6 Water (5110549-06) Sampled:11/09/05 00:00 Received:11/11/05 10:17									
Diesel	ug/l	83			50	EPA 8015 MOD	11/21/05	11/11/05	B5K0303
Motor Oil	"	255			50	"	"	"	"
Surrogate: Octacosane		83.5 %		50-150		"	"	"	"


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fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Greg Sounhein
Project: BIGFOOT GAS SP-120

Lab No: 5110549
Reported: 11/30/05
Phone: (707) 269-0884
P.O. #

Notes and Definitions

S-07 The surrogate recovery for this sample is outside of established control limits. The batch was accepted based on acceptable LCS and MS/MSD recoveries and RPDs.
R-07 The sample was diluted due to the presence of high levels of target analytes resulting in elevated reporting limits.
R-01 The Reporting Limit and Detection Limit for this analyte have been raised due to necessary sample dilution.
J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). The J flag is equivalent to the DNQ Estimated Concentration flag.
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the detection limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
< Less than reporting limit
≤ Less than or equal to reporting limit
> Greater than reporting limit
≥ Greater than or equal to reporting limit
MDL Method Detection Limit
RL/ML Minimum Level of Quantitation
MCL/AL Maximum Contaminant Level/Action Level
mg/kg Results reported as wet weight
TTLC Total Threshold Limit Concentration
STLC Soluble Threshold Limit Concentration
TCLP Toxicity Characteristic Leachate Procedure


Approved By
Basic Laboratory, Inc.
California D.O.H.S. Cert #1677

2218 Railroad Ave., Redding, CA 96001 (530) 243-7234 FAX (530) 243-7494

5110549

San Pacific

ADDRESS: PO Box 13
Kneeland, CA
95549

Greg Sauheir

PHONE: (707) 269 0884	FAX: (707) 269 0669	E-MAIL: greg@ sam-pacific.com
--------------------------	------------------------	----------------------------------

INVOICE TO:	PO#:
Southern Pacific	

SPECIAL MAIL ☐ E-MAIL ☒ FAX ☐ EDT ☒

DATE	TIME	W A T E R	C O M P	S O I L	"14 th Quarterly"
					SAMPLE DESCRIPTION

11/9/05	X			MW-1
				MW-2
				MW-3
				MW-4
				MW-5
				MW-6

PROJECT NAME:
Bigfoot Gas

REQUESTED COMP. DATE:
11-29-05

SP-120

STATE FORMS?	<input type="checkbox"/>
--------------	--------------------------

TURN AROUND TIME: STD ☒ RUSH ☐

ANALYSIS REQUESTED

OF BOTTLES

TPH g by 8260
BTXE g by 8260
0928 g by 8260
5108 g by 8260

W

OF SAMPLES:
6

PAGE 1 OF 1

ID#:

SYSTEM#:

GLOBAL ID #:

T060230027.5

QC = 1 2 3 4

LAB
ID

REMARKS

Also Email: SouthPacific@standard.net,
greg@southpacific.com

PRESERVED WITH: HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ ZnAce/NaOH ☐ HCL ☒ NaThio ☐ OTHER *Ice*

Left Ganes

DATE: 11/9/05

Let Gaines

11/9/05

RECEIVED BY:

DATE/TIME: 11/1/01 11:00

RELINQUISHED BY:

DATE/TIME:	01/01/01 10:00
------------	----------------

RECEIVED BY: (SAMPLES UNVERIFIED)

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY LAB: (VERIFIED)

DATE/TIME:

SAMPLES SHIPPED VIA:

UPS FEDEX POST BUS OTHER

INSTRUCTIONS, TERMS AND CONDITIONS ON BACK.

Appendix B



Standard Operating Procedures

Groundwater Level Measurements and Free Phase Hydrocarbon Measurements

All SounPacific staff and contractors shall adopt the following procedures any time that groundwater elevations are determined for the purposes of establishing groundwater gradient and direction, and prior to any sampling event.

Wells are to be tested for free phase hydrocarbons (free product) before the first development or sampling of any new well, and in any well that has historically contained free product.

Equipment Checklist

- ☐ Combination water level / free phase hydrocarbon indicator probe (probe)
- ☐ Gauging Data / Purge Calculations Sheet
- ☐ Pencil or Pen/sharpie
- ☐ Disposable Gloves
- ☐ Distilled Water and or know water source on site that is clean
- ☐ Alconox (powder) or Liquinox (liquid) non-phosphate cleaners—do not use soap!
- ☐ Buckets or Tubs for decontamination station
- ☐ Tools necessary to access wells
- ☐ Site Safety Plan
- ☐ This Standard Operating Procedure
- ☐ Notify Job site business that you will be arriving to conduct work.

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.
2. Access and open all monitoring wells to be measured. Allow wells to equilibrate for approximately 15 minutes before taking any measurements.

3. Decontaminate probe with Alconox or Liquinox solution, and rinse with distilled water.
4. Determine the diameter of the well to be measured and indicate this on the Gauging Data / Purge Calculations Sheet.
5. Words of caution: Please be careful with water level and product meters probes are not attached with high strength material so please make sure to avoid catching the end on anything in the well and make sure not to wind reel to the point that it could pull on the probe. ***If product is suspect in a well, go to step 6, if no product is suspected go to step 7 below.***
6. **When product is present or suspected:** use the product level meter. Clip the static charge clamp to the side of the well casing. Then lower probe into the well through the product/water interface about one foot if possible. Then slowly raise the probe back up through the product/water interface layer and record the level as the tone changes from solid to broken-record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTP). Continue to raise the probe up through the product until the tone stops completely-record this level on the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW). Then go to step 8.
7. **When no product is present or suspected:** If no free product is present, record the depth of the water (to the nearest 0.01 foot) relative to the painted black mark on the top of the well casing. Leave the probe in the well just a hair above the water level to ensure the well as equilibrated. As the well rises, the tone will sound. Make sure no increase in water levels have occurred in over a ten-minute period. Water levels can lower as well as rise. Make sure you note when the level you keep lowering the probe to has remained stable for at least ten minutes. Once this has been accomplished, please record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW).
8. Turn off the probe, and use the probe to determine the depth to the bottom of the well relative to the top of the well casing. This is the depth to bottom measurement (DTB).
9. Decontaminate probe and tape by washing in an Alconox/Liquinox solution (***read directions on solution for ratio of water to cleanser***) and use the toothbrush provided to remove any foreign substance from the probe and tape. Then triple rinse probe and tape with clean water and then proceed to take measurements in the next well.
10. If sampling is to occur, proceed to implement SounPacific's Standard Operating Procedure for Monitoring Well Purging and Sampling. If no sampling is to be performed, close and secure all wells and caps.



Standard Operating Procedures

Monitoring Well Purging and Groundwater Sampling

All SounPacific employees and contractors shall adopt the following procedures any time that groundwater samples are to be taken from an existing groundwater monitoring well.

Prior to the implementation of these procedures, the groundwater level **MUST** be measured and the presence of free phase hydrocarbons determined in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Equipment Checklist

- ☐ **Gauging Data / Purge Calculations Sheet used for water level determination**
- ☐ Chain of Custody Form
- ☐ pH/ Conductivity / Temperature meter
- ☐ Pencil or Pen
- ☐ Indelible Marker
- ☐ Calculator
- ☐ Disposable Gloves
- ☐ Distilled Water
- ☐ Alconox/liquinox liquid or powdered non-phosphate cleaner
- ☐ Buckets or Tubs for decontamination station
- ☐ Bottom-filling bailer or pumping device for purging
- ☐ Disposable bottom-filling bailer and emptying device for sampling
- ☐ String, twine or fishing line for bailers
- ☐ Sample containers appropriate for intended analytical method (check with lab)
- ☐ Sample labels
- ☐ Site Safety Plan
- ☐ Tools necessary to access wells
- ☐ Drum space on site adequate for sampling event

SounPacific Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, Page 2 of 3

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.
2. Measure groundwater levels and check for the presence of free product in accordance with the Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Purging

3. Calculate and record the volume of standing water in each well using the information provided on the Gauging Data / Purge Calculations sheet.
 $(DTB-DTW) \times \text{Conversion Factor} = \text{Casing Volume}.$
4. The purge volume shall be at least three times and no more than seven times the volume of standing water (the casing volume).
5. Purge the well by bailing or pumping water from the well into a calibrated receptacle, such as a five gallon bucket or tub with markings to indicate one gallon increments. Collect purgeate in a 55 gallon labeled drum and store on site. Drum labels should include the date, contents, site number, and SounPacific's name and telephone number.
6. Take measurements of pH, conductivity, temperature, and visual observations to verify the stabilization of these parameters. At least five measurements of these parameters should be made throughout the purging process. The parameters shall be considered stabilized if successive measurements vary by less than 0.25 pH units, 10% of conductivity in μS , and 1°C (or 1.8°F). Continue purging until at least three times the casing volume has been removed, and the measured parameters have stabilized as indicated above. Do not exceed seven casing volumes.
7. Take a final depth to groundwater measurement and calculate the casing volume of the recharged well. Ideally, the casing volume should have recharged to at least 80% of the original measured casing volume before sampling commences. If due to slow recharge rates it is not feasible to wait for the well to fully recharge, then note this on the Gauging Data / Purge Calculation Sheet and proceed to sample following the procedure below.

Sampling

8. **After completing groundwater measurement, and checking for free product if necessary, in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, and after purging monitoring wells as described above, groundwater samples may be collected.**
9. Slowly lower a clean, previously unused disposable bailer into the well water approximately half of the bailer length, and allow the bailer to slowly fill.
10. Withdraw the full bailer from the monitoring well and utilize the included (clean and unused) bottom-emptying device to fill the necessary sample containers, and seal the container with the included PTFE (Teflon) lined cap.
11. When filling VOAs, fill the VOA completely full, with the meniscus rising above the rim of the bottle. Carefully cap the VOA and invert it and gently tap it to determine whether air bubbles are trapped inside. If the VOA contains air bubbles, refill the VOA and repeat this step.
12. All samples shall be labeled with the Sample ID, the Sample Date, and the Sample Location or Project Number. Use an indelible marker for writing on sample labels.
13. Record all pertinent sample data on the Chain of Custody.
14. Place samples in an ice chest cooled to 4°C with ice or "blue ice". Bottles should be wrapped in bubble wrap, and VOA's should be inserted in a foam VOA holder to protect against breakage. Samples are to be kept at 4°C until delivered to the laboratory. Any transference of sample custody shall be indicated on the Chain of Custody with the appropriate signatures as necessary.
15. Utilize clean, previously unused gloves, bailer and line, and bottom-emptying device for each well sampled.
16. When finished with all sampling, close and secure all monitoring wells.
17. Leave the site cleaner than when you arrived and drive safely.

Appendix C

GAUGING DATA/PURGE CALCULATIONS

Job Site:

Bigfoot Gas

Job No.:

SP-120

Event:

"14th Quarterly"

Date:

11/9/05

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Environmental Services

(707) 269-0884

WELL NO.	DIA. (in.)	DTB (ft.)	DTW (ft.)	ST (ft.)	CV (gal.)	PV (gal.)	SPL (ft.)	Bailer Loads	Notes
MW-1	2	11.81	1.20	10.61	1.70	5.1	-	-	faint
MW-2	2	11.97	2.57	9.40	1.50	4.5	-	-	odor
MW-3	2	11.40	1.95	9.45	1.50	4.5	-	-	faint
MW-4	2	11.23	2.00	9.23	1.48	4.4	-	-	odor
MW-5	2	11.30	.92	10.38	1.66	5.0	-	-	odor
MW-6	2	10.95	1.95	9.00	1.44	4.3	-	-	# of Drums: MW6-faint
									2 3/4 full
									0 Empty

Explanation:

DIA = Well Diameter

DTB = Depth to Bottom

DTW = Depth to Water

ST = Saturated Thickness (DTB-DTW)

CV = Casing Volume (ST x cf)

PV = Purge Volume (standard 3 x CV,
well development 10 x CV)

SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf):

2 in. dia. well cf = 0.16 gal./ft.

4 in. dia. well cf = 0.65 gal./ft.

6 in. dia. well cf = 1.44 gal./ft.

Sampler:

Jeff Cairnes

Well Gauging/Sampling Report

Sheet 1 of 6

Date: 11/9/05 Project Name: Bigfoot Gas Project No: SP120 Well Number: MW-1

Analyses Tested: TPHg, BTXE, S-oxy's, TPA d/mo

Sample Containers: (3) HCl VOA's, (2) 1-L Amber bottles

Purge Technique: ☒ Bailer ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes
9:38	1.20		No sheen
9:53	1.20		↓
	End		

Field Measurements

Time	Total Vol. Removed(gal)	pH	Temp(°F)	Cond.(µm/cm)	DO(mg/L)	DO(%)	
11:23	0	6.66	60.62	.216	3.27	32.9	
11:27	1.70	6.94	59.99	.209	2.33	23.4	
11:31	3.40	6.88	59.91	.205	2.03	20.3	
11:35	5.10	6.89	59.87	.197	1.85	18.5	

Field Scientist: Jeff Gaines

Well Gauging/Sampling Report

Sheet 2 of 6

Date: 11/9/05 Project Name: Bigfoot Gas Project No: SP-120 Well Number: MW-2

Analyses Tested: TPHg, BTXE, 5-oxy's TPHd/no

Sample Containers: (3) HCL Voks, (2) 1-L Amber bottles

Purge Technique: ☒ Bailer ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes
9:42	2.58		Sheen detected
9:56	2.57		↓
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
11:50	0	6.87	58.49	.706	1.67	16.5	
11:53	1.5	6.93	58.70	.706	1.60	15.9	
11:57	3.0	6.99	58.71	.705	1.49	14.8	
12:02	4.5	7.03	58.67	.694	1.24	12.3	

Field Scientist: Jeff Coates

Well Gauging/Sampling Report

Sheet 4 of 6

Date: 11/9/05 Project Name: Bigfoot Gas Project No: SP-120 Well Number: MW-4

Analyses Tested: TPH_s, BTXE, 5-oxy's, TPHd/mo

Sample Containers: (3) HCl VOA's, (2) 1-L Amber bottles

Purge Technique: ☒ Bailer ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
9:47	2.00		No Sheen
10:01	2.00		No sheen
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO(%)
12:36	0	7.25	65.34	.298	.54	5.7
12:42	1.48	7.19	65.51	302	.49	5.2
12:47	1.48	7.23	65.44	.299	.47	5.0
12:52	1.48	7.18	65.48	.298	.45	4.8
	1.48 ✓					
	2.96					

4.44

Field Scientist: Jeff Lerner

Well Gauging/Sampling Report

Sheet 5 of 6

Date: 11/9/05 Project Name: Bigfoot Leas Project No: SP-120 Well Number: MW-5

Analyses Tested: TPH, BTXE, S-oxy's, TPH d/mo

Sample Containers: (3) HCL vials, (2) 1-L Amber bottles

Purge Technique: ☒ Bailor ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
9:49	.92		No Sheen
10:04	.92		↓
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO(%)	
1:02	0	7.18	56.20	.164	.56	5.3	
1:08	1.66	7.08	57.77	.264	.66	6.5	
1:13	3.34	7.10	58.29	.297	.58	5.7	
1:17	5.0	7.12	58.28	.298	.56	5.5	

Field Scientist: Jeff Gower

Well Gauging/Sampling Report

Sheet 6 of 6

Date: 11/9/05 Project Name: Bigfoot Gas Project No: SP-120 Well Number: MW-6

Analyses Tested: TPHg, BTXE, 5-oxy's, TPH d/mo

Sample Containers: (3) HCL VOA's, (2) 1-L Amber bottles

Purge Technique: ☒ Bailer ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
9:51	1.95		No shear
10:08	1.95		↓
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
1:27	0	7.02	59.59	.244	.64	6.4	
1:30	1.44	6.99	62.09	.262	.60	6.1	
1:34	2.88	6.98	62.39	.294	.54	5.6	
1:38	4.32	7.06	62.47	.292	.50	5.1	

Field Scientist: Jeff Gaines